

New-York Tribune.

EXTRA, No. 35. 25 CENTS.

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THE TRIBUNE EXTRAS.

NOTE.—The earlier and several of the Sheet Extras of THE TRIBUNE are now out of print. The following list is complete at this date; all being in pamphlet form, except where the sheet form is especially indicated:

No. 9.—Illustrated—Six Lectures on Astronomy by Richard A. Proctor, and Lectures by Prof. Agassiz at the Anderson School on Penikese Island. Price 20 cents.

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No. 32.—Centennial Extra, with full description of the International Exhibition at Philadelphia, and account of the opening ceremonies, May 12, 1876. Price (in sheet form) 10 cents.

No. 33.—Centennial Orations of William M. Evarts, R. S. Storrs, D. D., Charles Francis Adams, Henry Ward Beecher, and Centennial Hymns and Odes by William Cullen Bryant, Bayard Taylor, John G. Whittier, and O. W. Holmes. Price (in sheet form) 10 cents, in pamphlet 25 cents.

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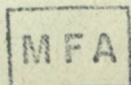
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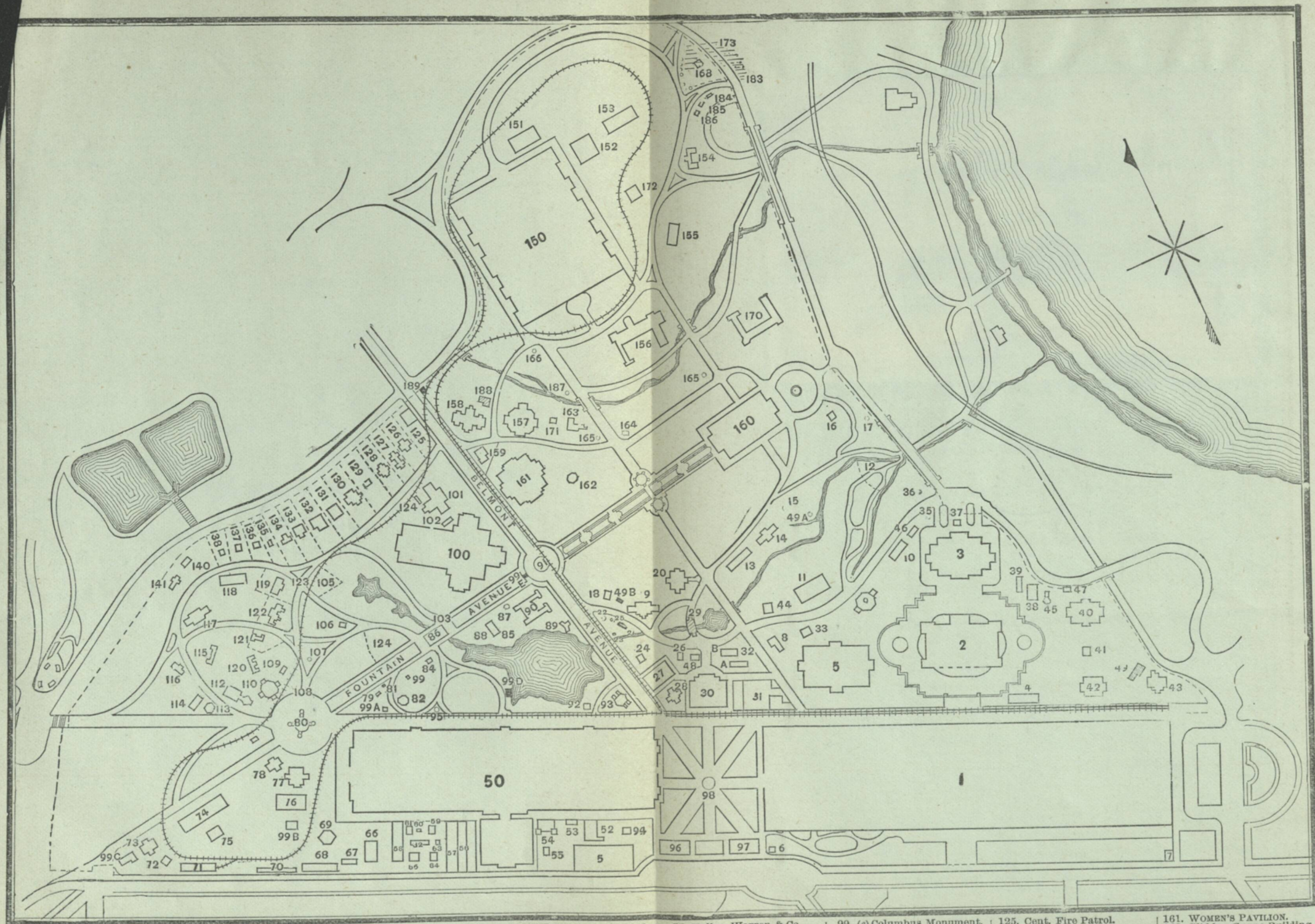


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THE CENTENNIAL EXHIBITION GROUNDS AT FAIRMOUNT PARK.



EXPLANATION OF MAP.

The Centennial grounds are divided into four sections by Belmont and Fountain-aves. In the south-east section the buildings are numbered from 1 to 49; in the south-west section from 50 to 99; in the north-west section from 100 to 149; and in the north-east section from 150 to 200.

SOUTH-EAST SECTION.

1. MAIN BUILDING.
2. MEMORIAL HALL.
3. ART ANNEX.
4. Photograph Gallery.
5. Annex to Main Building.
6. Cent. National Bank.
7. Public Comfort Cloak-room.
8. Sweden School-house.
9. P'nsylvania Educational Building.
10. Singer's Sewing Machine.
11. Sudreau Restaurant.
12. Hunter's Camp.
13. Milk Dairy Association.
13. (a) Extension Milk Dairy Association.

14. Bible Society.
15. Public Comfort Station.
16. Philadelphia City Building.
17. Soda Water.
18. Moorish Villa.
19. German Government.
20. Brazil Empire Building.
21. Kittredge Cornice Co.
22. Philadelphia Times.
23. Klautsek Glass Factory.
24. Cigar-stand.
25. American Fusee Comp'y.
26. Cent. Photo. Association.
27. Pennsylvania Railroad Ticket Office.
28. Cent. Medical Department.
29. Cent. Medical Department.
30. Judges' Hall.

31. Public Comfort, Telegraph, and U. S. Com.
32. Japanese Building, A and B.
33. Kindergarten School-house.
34. Soda-water Fountain.
35. Public Comfort.
36. Cigar-stand.
37. Stand-pipe.
38. French Government.
39. Stained Glass Building (French).
40. Vienna Bakery.
41. Bankers' Building.
42. Empire Transportation Building.
43. Cent. Fire Patrol.
44. Portugal Building.
45. Pavilion of French Lines of Art.
46. Burial Casket Building.
47. Public Comfort Cloak-room.
48. Police Station.
49. Police Station.
49. (a) Music-stand.
49. (b) French Ceramic Pavilion.

SOUTH-WEST SECTION.

50. MACHINERY BUILDING.
51. Shoe and Leather Building.
52. British Boiler House.
53. Boiler House.
54. Corliss Boiler House.
55. Weimer's pat. Furnace.
56. Annex No. 1.
57. Annex No. 2.
58. Annex No. 3.
59. State Nevada.
60. Gas Machine.
61. Yale Lock Co.
62. Brick-making Machinery Works.
63. Storehouse.
64. Mervine & Morris, Artesian Well.
65. Rock-drilling Machine.
66. Jesse Star & Son, Iron Works.
67. Gunpowder Pile-driver.
68. Automatic Railway.
69. Tiffany Gas.
70. Pennsylvania Railroad.
71. Engine House.
72. Emile Ross, Sawmill.
73. Gillender & Son.
74. Sawmills.
75. Boiler House.
76. Campbell Printing Press.

77. Fuller, Warren & Co.
78. Liberty Stove Works.
79. Boston Herald and Advertiser.
80. C. T. A. Fountain.
81. Frank Leslie Pavillon.
82. Turkish Café.
83. Pennsylvania Building.
84. Pop Corn Stand.
85. Rowell Newspaper Exhibition.
86. Col. Leonard Relief Plan.
87. Public Comfort Station.
88. Soda Water.
89. N. Y. TRIBUNE PAVILION.
90. French Restaurant.
91. Sons of Temperance Drinking Fountain.
92. Arm of the Statue of Independence.
93. World's Ticket Office.
94. Catalogue Office.
95. Lohreut Pressed Fuel Co.
96. Office Board of Finance.
97. Cent. Commission.
98. Bartholdi's Fountain.
99. Jerusalem Bazaar.
99. (a) Vermont State.
99. (b) Chilian Machine B'd.
99. (c) Police.
99. (d) Statue Elias Howe.

99. (e) Columbus Monument.
99. (f) Averill Paint Co.

NORTH-WEST SECTION.

100. U. S. GOVERNMENT BUILDING.
101. U. S. Hospital.
102. Laboratory.
103. Cigar stand.
104. U. S. Tent.
105. U. S. Signal Service.
106. Bishop Allen's mon'm't.
107. Soda Water Fountain.
108. Cigar stand.
109. Canadian log-house.
110. Arkansas Building.
111. Spanish Building.
112. West Virginia Building.
113. Spanish soldiers' headquarters.
114. Spanish Exhib. Building.
115. Japanese dwelling.
116. State Mississippi.
117. George's Hill Restaurant.
118. California Building.
119. New York State.
120. English houses.
121. English house.
122. English headquarters.
123. Public Comfort Station.
124. Tunisian Café and tents.

125. Cent. Fire Patrol.
126. Ohio Building.
127. Indiana.
128. Illinois.
129. Wisconsin.
130. Michigan.
131. New-Hampshire.
132. Connecticut.
133. Massachusetts.
134. Delaware.
135. Maryland.
136. Tennessee.
137. Iowa.
138. Missouri.
139. U. S. Block-house.
140. Fire Patrol.
141. Rhode Island.

NORTH-EAST SECTION.

150. AGRICULTURAL HALL.
151. Annex Wagon Building.
152. Pomological Building.
153. Brewers' Building.
154. Model Butter and Cheese Factory.
155. Tea and coffee presses.
156. American restaurant.
157. State of Kansas.
158. Restaurant "The South."
159. State of New-Jersey.
160. HORTICULTURAL HALL.

161. WOMEN'S PAVILION.
162. Glidden Guano Building.
163. New-England log-house.
164. Pop-corn.
165. Cigar stand.
166. Soda water.
167. Bee-hive.
168. Women's school-house.
169. Lumber German restaurant.
170. Virginia Building.
171. Boiler-house.
172. Windmill.
173. Windmill.
174. Windmill.
175. Windmill.
176. Windmill.
177. Windmill.
178. Windmill.
179. Windmill.
180. Windmill.
181. Windmill.
182. Windmill.
183. Windmill.
184. Police barracks.
185. Hay packing.
186. Practical farmer's office.
187. Public Comfort Station.
188. Centennial Guards.
189. Public Comfort Cloak-room.

The Tribune.

Extra No. 35.

Guide to the Exhibition.

25 Cents.

I. INTRODUCTION.

*Unauthor'd
Phil. Centennial Exhibition, 1876*

What this Extra aims to do is to tell the reader in a short and popular way, what is best worth seeing at the Centennial Exhibition. It is especially valuable, inasmuch as the authors of the articles are experts in their departments. The general survey of the Exhibition is made by Mr. Bayard Taylor, who has attended every World's Fair that has ever been held. The national exhibits are described by Mr. E. V. Smalley, who was the correspondent of THE TRIBUNE at the Vienna Exhibition, and had previous experience at other World's Fairs. Mr. J. R. G. Hassard, Mrs. Rebecca Harding Davis, Mr. William C. Wyckoff, Mr. Clarence Cook, Mr. E. H. Knight, Mr. Dalton Dorr, and other well-known writers in special departments, also contribute to this Extra. Our correspondents present a complete description of the salient features of the wonderful spectacle in Fairmount Park.

The best pictures in the Art Department, the most ingenious devices in Machinery Hall, the most significant features of the national exhibits in the Main Building, the most noticeable products of woman's industry, the quaintest pottery and bric-à-brac, and the most unerring indications of the progress of education in the schools of the world, are pointed out for the benefit of the reader, whether he has three days or nine, or barely an afternoon in which to see the Exhibition. Aided by the map of the grounds, which is printed with full explanations, the reader will be enabled to get a clear idea of the magnitude and character of the New World's Fair, and will realize the grandeur and significance of an undertaking that has assembled at one spot the best achievements of human genius, industry, and skill from all lands and peoples.

II. ITINERARIES.

THE EXHIBITION IN THREE DAYS.
ADVICE TO THOSE WHOSE VISITS MUST BE BRIEF—
NOTABLE OBJECTS TO BE SEEN IN EACH DEPARTMENT—PROGRAMME FOR EACH DAY.

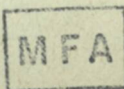
PHILADELPHIA, Aug. 15.—Many people have only a few days at their disposal—possibly only two or three: it is unfortunate; they would be glad to study thoroughly the lessons of the great object-teaching school, but it is impossible. Now they say, "What we want to know is how to get the cream of the Fair. Give us a guide to the best jewels of this bewildering treasure-house of

riches, so that when we go home after having seen perhaps only a tithe of what we would like to have seen we can have the consolation of knowing we have seen the best." It is probable that a majority of all the visitors are of this class. To meet their wants the following three days' itinerary is offered:

FIRST DAY.

Ride around the grounds on the steam railway; then devote the whole day to the Main Building. As there are 36 different national sections in it, this will give an average of only 15 minutes to each. To some you will do well to devote half an hour or even

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more, while others will have to be passed over with a hurried glance. The most noticeable and characteristic exhibits in each are named below.

United States—Silverware, jewels, chemicals, furniture, the book trade pavilion, chandeliers, the piano pavilions, the marble and slate mantels, and the very extensive display of textile fabrics. The educational exhibits in the south and east galleries should also be seen.

The foreign countries are mentioned in the order in which they occur in the building beginning at the eastern end, and taking first those on the north side of the main aisle, and afterward those on the south side. The method of traversing the building should be to enter each section from the main aisle and return to the aisle before going to the next section. This will preserve the unity of the impression made by each national display. Exceptions will, of course, have to be made in the cases of the few sections which do not abut upon this chief artery of communication.

Mexico—Most noticeable are the immense casting of silver, the articles of Mexican onyx, and the leather and woven goods.

Netherlands—See the engineering exhibit and the East India curiosities.

Brazil—Notice the feather flowers and beetle jewelry; take a glance at the photographs and the furniture.

Belgium—See the court of laces and the school-house (both will be found at some distance back from the main aisle). Notice in the aisle the great pulpit of carved oak.

Switzerland—Watches, lace curtains, embroideries and carved woodwork are the best exhibits.

France—Half an hour should be spent here, examining the bronzes, porcelain, tapestries, silks, Limoges enamel, laces, ladies' dresses, and the multitude of fancy articles. See also the church images and decorations.

England—This department also requires much time. The silverware, porcelain, Doulton ware, ornamental tiles, furniture, and the product of the Royal School of Needlework are best worth notice.

India—The carved furniture, jewelry, fine tissues of silk and linen, shawls, and embroideries are admirable.

Canada—No special objects. A walk through the section will reveal a remarkable variety of excellent manufactures, resembling closely those of the United States.

Minor British Colonies—Beginning with Jamaica, which fronts on the central aisle, these exhibits extend in a line back to the wall. A glance should be taken at each.

The Australian Group—It includes Victoria, New South Wales, Queensland, South Australia, New Zealand, and Tasmania; all lie together, but each has a separate court. While there is a marked similarity, each colony has objects of special interest, and each court should be visited.

Sweden—Here the costumed peasant figures, the porcelain, the furs, and the iron are most worthy of attention.

Norway—See the filigree jewelry, the figures of Laplanders, and the picturesque iron exhibit.

Italy—Carved woodwork, mosaics, corals, jewelry, and photographs.

Argentine Republic—Not particularly interesting. See the minerals, the vicuna shawls, and the trunk that can be converted into a bed, hotel table, &c.

Peru (back of the Argentine Republic)—The Aztec skulls and articles from ancient tombs are alone worth seeing.

Orange Free State (still further back)—Diamonds and ostrich feathers.

Chili—Not much besides minerals.

China—Porcelain and wonderful carvings in wood and ivory. Do not miss the carved bedstead.

Japan—Give as much time as you can spare to this section. The bronzes, porcelains, lacquered work, and embroidered screens are inimitable.

Denmark—Stop only to see the beautiful imitations of Etruscan and Egyptian pottery in the first alcove.

Tunis (back of Denmark)—Notice the inlaid arms, jewelry, engraved silverware, and rich gold-thread embroideries.

Sandwich Islands (next the wall)—Queen Emma's feather cloak, wooden bowls, and native ornaments and utensils should be seen.

Egypt—The gorgeous embroideries, the curious Arabic engraved brass salvers, the stuffed crocodile, and the handsome cabinets may be seen in a few minutes.

Turkey—The finest sights are embroideries in silk, linen, and woolen, pipes, curious pottery, old arms, and attar of roses.

Portugal (back of Turkey)—Here the peculiar pottery, the filigree jewelry, and the fine carvings in wood for architectural ornaments are best worth seeing.

Spain—Examine the emblematic façade to the Spanish court. Also the mural tiles, carved sideboards, pottery, silver, and the large show of textile fabrics.

Russia—One of the most interesting sections. See the silverware, the malachite and lapis-lazuli objects, the cloths of gold and silver, and the furs.

Austrian-Hungary—Here the Bohemian glass, the Viennese work in gilt, bronze, leather, meerschaum, and amber, the garnet jewelry, and the Hungarian opals should be seen.

Germany—The Berlin porcelain, the collective book exhibit, and the pianos are the best features.

SECOND DAY.

Visit first the Shoe and Leather Building. There is a good deal of sameness here, but the display gives, by its extent, a strong impression of the importance of this industry. The shoemaking machinery is very interesting. Go next to Machinery Hall. Three broad avenues run the whole length of this huge structure, and by traversing each slowly and diverging from the one on the south side into the hydraulic annex, a good general idea will be gained of the largest collection of machines in motion the world has ever had an opportunity of seeing. The following manufacturing processes carried on every

day will be found worth stopping a few minutes to inspect: weaving silks, woollens, carpets, stockings, book marks, &c., printing, lithographing, paper making, scroll sawing, barrel making, glass engraving, chocolate and candy making, type casting, type writing, making gutta percha shoes, tobacco making, watchmaking, rock drilling, and many other operations. From Machinery Hall the visitor should walk rapidly past the buildings at the western end of the grounds, noticing particularly the glass factory and the Chilian, Japanese, English, and Spanish buildings, entering the latter for a few minutes' stay. The Government Building, the Woman's Pavilion, and the Horticultural Hall will finish the day's work.

THIRD DAY.

Divide the day between the Art Galleries and Agricultural Hall. In Memorial Hall see the Castellani collection and the English gallery pretty thoroughly; look at Makart's Catherine Carnaro in the Austrian gallery; pass rapidly through the French, German, Swedish, and American collections, not forgetting, however, to notice in the former the Gobelin tapestry; see the Spanish and Russian pictures with more care, and do not overlook the Mosaics sent by the Pope, and a few really good Norwegian landscapes. Then pass to the annex, where there are acres of mediocrity, with here and there a good canvas. The Dutch and Belgian collections are perhaps the best, but there are some American and French pictures that ought not to be missed. The Italian marbles will be found pretty and attractive.

Take, if possible, a half hour for the Photographic Hall, where there are admirable displays by English, French, Australian, German, Russian, Austrian, Swedish, and American photographers.

In Agricultural Hall see first in succession the various foreign sections—English, French, Japanese, Dutch, Venezuelan, Danish, Swedish, Norwegian, Russian, Spanish, Portuguese, Canadian, Italian, and Liberian. During the remainder of the time at your disposal walk through the aisles in the American Department and examine the most interesting exhibits. The Aquaria should not be forgotten, and a little time should be devoted to the Brewers' Building near the Hall.

THE EXHIBITION IN NINE DAYS.

SUGGESTIONS FOR A VISIT—PROGRAMME FOR EACH DAY.

PHILADELPHIA, July 17.—Most people who visit the Exhibition lose a great deal of time, and go over the same ground again and again, for want of a clear comprehension of the time and labor required to see the interesting features of the fair, and of a prearranged programme to guide their movements. Thus it happens that many find the time allotted for their stay exhausted and themselves obliged to leave before they have gone through the whole Exhibition in even a cursory manner. I venture to suggest a plan for those who may wish advice on the subject, which, if followed, will give to each department about the proportion of time which persons of average good taste, without special hob-

bies, will want to bestow upon it. The plains arranged for nine days. It might, perhaps, be squeezed into a week, but it would be much better to lengthen it to two weeks; and if a thorough study of the Exhibition is intended, at least a month will be required. For people who want to see the great show in two or three days I have cordial sympathy. If they can spare no more time, they are to be pitied; and if they suppose that in that period they can see all they will care to see, they are still more to be pitied for their lack of information about the magnitude of the Exhibition, or their want of appreciation of its contents. The nine days I would employ as follows, observing that the programme contemplates steady work from 9 o'clock in the morning until 6 in the evening, with a short intermission at noon for lunch:

First Day.—Enter the grounds at the Belmont-ave. gate. Buy a guide-book with a map, if you have not already provided yourself with one. Walk across the plaza to the Public Comfort Building, and there take the cars and make the circuit of the grounds, to get a correct idea at the start of their appearance and topography. Leave the cars at the terminus of the road, close by the eastern end of the Main Building, enter the building and spend the forenoon in the American section, not forgetting the two galleries where the educational exhibits are placed, from which a fine view may be obtained of the interior of the immense structure. In all cases the American section should be seen first, as a preparation for the examination of the foreign sections, and for a comparison between home and foreign manufactures. Lunch at one of the cafés in the building—the Café Leland is the best. Go next to the Art Gallery, and devote two hours to the pictures. That is about as long as any one can spend at a time seeing paintings without getting so fatigued as to lose the keen edge of his appreciation. At about 3½ o'clock walk to the glen near by and hear the Marine Band play for an hour. Visit the German and Brazilian pavilions, the Moorish villa, the little French house of iron and tiles, the Japanese bazaar, and the Swedish school-house, which are all near together.

Second Day.—Begin with the Art Gallery, and spend most of the forenoon there. Lunch at the Vienna Bakery or the Restaurant Lafayette. Visit the group of French buildings east of the Art Gallery, especially the pavilion of the Ministry of Public Works. Look in also at the Bankers' Building and the Empire Transportation Line Building. Spend the rest of the day in the Main Building, in the foreign sections east of the transept—those of Mexico, the Netherlands, Brazil, Belgium, Switzerland, and France.

Third Day.—Devote the forenoon to the part of the Main Building west of the transept and south of the central aisle. There you will find Germany, Austria, Russia, Luxemburg, Spain, Portugal, Turkey, Egypt, Tunis, Denmark, Japan, China, Hawaii, Chili, Peru, the Argentine Republic, and the Orange Free State. Walk to the Trois Frères Restaurant and lunch there. In the afternoon see the eastern half of Ma-

chinery Hall and the Shoe and Leather Building adjoining.

Fourth Day.—Finish the Main Building, visiting the sections of Great Britain, Canada, the British Colonies, Sweden, Norway, and Italy. This will occupy the whole forenoon. Lunch in Machinery Hall, and devote the afternoon to completing your survey of the contents of that building. Before leaving the grounds, and after the building closes, visit the Turkish and Tunisian coffee-houses and the various Oriental bazaars in the grounds near by.

Fifth Day.—Give the morning to the Art Hall. At noon take the cars to the foot of George's Hill, lunch at the restaurant there, and devote the afternoon to seeing the numerous buildings in that part of the grounds—the State Headquarters, the Spanish, English, Japanese, and Canadian buildings, the glass factory, the Chilean building for amalgamating machinery, the Campbell press building, &c.

Sixth Day.—Explore the Photograph Building and the Carriage-house; cross the high bridge over Landsdowne Ravine to Horticultural Hall. Get lunch close by at Lauber's restaurant or at the Dairy. The whole afternoon can be profitably spent in the Government Building. Toward evening visit the Brazilian Café, Rowell's Newspaper Pavilion, the model of Paris, and the out-door Government exhibits of guns, ambulances, postal cars, &c., and the lighthouse.

Seventh Day.—Agricultural Hall with its appendages—the Brewers' Hall, the Cheese Factory, and the Wagon annex—will furnish abundant material for the day. The midday meal can be taken at the American Restaurant or at one of the cafés in the

hall. On the way out of the grounds ride across Belmont Glen on the elevated one-track railway.

Eighth Day.—Look through the two mineral annexes to the Main Building first; then walk through the building and up Belmont-ave. to the Woman's Pavilion and the Kindergarten School, where the rest of the forenoon can be spent. If you wish to make the rounds of the restaurants, lunch at the Grand Southern, close by, visit the Kansas-Colorado Building and the New-England Ivy Cottage. Devote the rest of the afternoon to the music in the glen or to the organ and piano concerts in the Main Building, and to seeing such parts of the grounds as have not yet been satisfactorily explored.

Ninth Day.—The last day should always be devoted to a more thorough examination of such objects or departments as the visitor's tastes may lead him to desire to give more time to than he was able to do during his systematic survey of the Fair. His duty done and the whole Exhibition gone through (hastily it is true), the visitor may now give a rein to his inclinations. An ascent of one of the towers in the Main Building, by the elevator, can well be made on this day.

In whatever department of the Fair the visitor may be—whether among pictures, machinery, manufactures, or agricultural products—he should so arrange his movements as to see the exhibit of one country before going to that of another. The opposite method of sight-seeing—that of wandering aimlessly along the principal aisles and stopping to look at such objects as are particularly novel or brilliant, without ascertaining what country they come from—is utterly destructive of the invaluable educational influences of the Exhibition and makes of it a mere raree show.

III.

ASPECTS OF THE FAIR.

A GENERAL SURVEY OF THE GROUNDS.

BAYARD TAYLOR'S IMPRESSIONS OF THE EXHIBITION,
NOW THREE MONTHS OLD.

WEST PHILADELPHIA, Aug. 15.—Coming back, for the first time since the Opening on the 10th of May last, to make a general examination of the great Exhibition, I have the advantage of an entirely fresh impression. The new features which have been added, the imperfect displays which have since been completed, have now become part and parcel of the show; the intermediate phases of the latter have disappeared, and at least its external aspects are fixed beyond the probability of change. If not all, certainly all important facts and possibilities of our World's Fair are finally developed, may be compared, and hence invite universal inspection.

Merely as a show, the Exhibition presents some very unusual features. I know no better way of describing them than to ask the reader to accompany me through a day's experiences, undertaken with the design of seeing the Exhibition as a whole, yet allowing chance or accident to fix the order of perambulation. One may perhaps accomplish more by drawing up a programme for the day and de-

voutly adhering to it; but I have always found that observation is kept fresher and memory remains stronger where a certain latitude of will is allowed. The main entrances, on Belmont-ave., as one looks upon them, of a morning, from the balcony of the Transcontinental Hotel, are very suggestive of Vienna. In fact, not only as the last, but also as the most spacious of the six great International Exhibitions since 1851, that of Vienna most naturally provokes comparison with this of ours. The distance from the city, the broad Praterstrasse, the multitude of crowded horse-cars, and the mixture of old trees and many-colored new buildings which I saw there in 1873, seem to be fairly repeated here, although outside of the grounds, the scene is anything but Philadelphian. It is characterized by a movement, a heterogeneous mixture of individualities, a forgetfulness of old conventional ways, which have never been beheld in the Quaker City—at least prior to this year. I remember when a man who wished to cross the street in the middle of a block was compelled by public opinion to go down one side to the corner and then up the other side; but I think this extreme habit was abandoned some years ago.

Now, certainly, the visitor is gloriously free to follow his own bent in such matters: at the worst, he is only taken for a foreigner!

It is 9 o'clock, and Monday morning; yet there is already quite a crowd at the gates. The sellers of "Guides" are sufficiently numerous and loud; active and wary policemen are on hand; a queue is formed to the Centennial Bank, where 50-cent notes are furnished without a premium, and the financial tramps who make the necessary change for a bonus of 10 to 25 per cent hover around, and in faint, desponding voices suggest: "It'll take you hours to get it that way!" It takes about ten minutes, we notice; the accommodations for entrance are ample, the stiles turn as if oiled, and the crowd suddenly finds itself in a fair cosmopolitan land, where all sorts of annoyances may look over the high stockade-boundary, but cannot enter; where there is order and convenience and rest and refreshment, in addition to what is provided for the eye and brain.

The detached buildings, over a hundred in number, are not only finished but set in finished surroundings. There is now no sign of rubbish anywhere: the paths, avenues, and bridges are complete; and if here and there an enforced slope of turf looks thin and feeble, or a clump of shrubby growths but languidly, it seems no more than the hot Summer has effected in many old pleasure-grounds. The many full-grown trees scattered throughout the enclosure greatly increase the impression of permanence, and the variety of surface produced by the two dells which, falling toward the Schuylkill, divide the blossom-starred plateau of the Horticultural Building from the Main and Agricultural Halls, is now seen to be one of the greatest charms of the spot. The locality is beyond all question the most beautiful which has ever been chosen for an International Exhibition; and the more the disposition of the main and subordinate buildings is studied, the more their admirable combination of convenience and picturesque alternation will be appreciated by the visitor. Perhaps there are fewer luxurious effects of gardening art—fewer surprises and rapid changes of scene than in Paris in 1867—but on the other hand there is greatly more space and freedom. Considering how much there is, it is amazing that every single feature of the Exhibition is of such easy reach.

The narrow-gauge railway within the grounds is a charming innovation. Let us cross the open, velvet-turfed square between the Main Hall and the Machinery Building, giving two rapid glances to Bartholdi's not-very-successful fountain, and half a glance with a whole shudder to the fearful and wonderful statue of "Washington Crossing the Delaware" (modeled from Leutze's picture!), and we find ourselves, near the practical and excellent "Department of Public Comfort," at one of the stations of the circular road. We pay five cents apiece and are admitted to the platform. Presently comes up a train of breezy open carriages, drawn by a docile pony locomotive, which makes nothing of grades and short curves. There is no conductor: we take seats among a hundred others, and have scarcely

time for another shudder at the marble Washington and an effacing thrill of delight as we pass between the lake, with its great dome-shaped fountain of many sprays, and the level lawn diapered with patterns in geranium and amaranth, when the train halts in front of the Women's Pavilion. Here a number of passengers get off: the most of them are apparently bound for the Government Exhibition across the way.

In two minutes more we have rounded the head of the dell, looking down upon shady paths, none the less fit for lovers because leading to restaurants, and are in front of the indescribable Agricultural Building. This seems to be the chief station on the line. The American Restaurant is here, flanked by a beer-garden, and Lauber's is just across the dell. A little further, there is a building for the display of cheese and butter, while a Brewers' Hall, opposite, furnishes the chemical harmony of cheese. The train turns around a small circle in this extreme corner of the grounds, and doubles back nearly to the Women's Pavilion, when it darts off down the avenue of State Buildings, skirts the whole length of Machinery Hall, and returns past Memorial Hall (the Art Exhibition) to its starting point at the eastern end of the main Exhibition Building. The round trip does not take more than fifteen minutes: it is so unique and thoroughly enjoyable that one is tempted to go a second, third or fourth time, for the simple delight of watching the shifting panoramas. Indeed, there is no better method of orientation than to follow the circle, map in hand, until every prominent object becomes clearly fixed in the mind.

I cannot guess what first impression those may receive who see a World's Fair here for the first time. But, having already given the points of comparison between this and the preceding five Exhibitions, I looked upon it yesterday without reference to them. I found that its prominent characteristic was the broad cosmopolitan stamp which extended even to the details. Whatever might have seemed specially American, if standing alone, took its place as one of many forms of human skill or industry. Thus, also, the manifestation of one nationality balanced that of another; and it would be hardly possible to say, without inspecting the crowd rather closely, whether one was in England or France, Germany or America. The singular collection of State buildings is now so flanked by (so called) Turkish, Tunisian, Moorish, and other structures of foreign fashion, that its grotesqueries no longer strike the eye. But nearly all the more prominent objects are in negative if not in positive good taste, and stamp their character upon the scene. Wherever we turn, there is such an animated, populous, and cheerfully-colored picture that we are constantly beguiled from the serious work of our visit.

The foreign commissioners, exhibitors, and attendants give a permanent representation of their several nationalities. The native visitors just at present are mostly people from the country, with a sober holiday air about them. It is curious to note their grave, suppressed manner in the morning when they

arrive. They stare much and speak little, bestowing their amazement upon great things and small with strict impartiality. The vast extent of the show at first solemnizes them. If they ask for information their speech is timid and tentative, as if they are not quite sure whether you will understand the English language. It was a relief to hear a buxom girl exclaim, with honest impulse if defective grammar: "Oh, look'ee there! What's them things?" By noon, however, when 20,000 persons are sure to be present, the habits of individual communities grow confused; there is such a vast and variegated crowd that each one returns to his or her natural manner before he or she is aware of it, sure of not being particularly noticed. Then you see strangers giving question and answer or interchanging remarks at every turn. Then the restaurants, the bazaars, and the circular trains are crammed with people who talk freely, laugh and jest at will, and pour their mixed impressions into the genial common atmosphere. It is not quite the *abandon* of a European crowd, but a very pleasant approach to it.

I am surprised to find such a small proportion of the better—I should say, the richer—classes of those who live in cities, and claim higher culture and better opportunities of knowledge. It may be that the character of the attendance varies somewhat with the season, and that another month may see a different throng in these wonderful halls; but, however it may be, the number of visitors is not half what it should be. The great mass of our people cannot yet understand how much is offered to them. A quarter of a century, at the least, must pass before we can hope to see an equal representation of the art and industry of the world upon our soil. It is not so much a holiday show as a great school of instruction. Every young man in the country should be willing to give six months' labor for the means of making a thorough inspection. Two and a half millions of paid admissions, thus far (if, indeed, there have been that many), do not represent more than 800,000 visitors—and there are certainly 4,000,000 persons in the United States who are able to come, and capable of profiting by what they would see.

I should also particularly like to see ten times as many visitors from abroad. The Exhibition will be an incalculable benefit to us in dissipating the notion of our rough semi-civilization which is so prevalent in Europe. The wonder of the foreigner at what is here accomplished is generally mixed with a sense of shame; for it is by no means what he anticipated. If Germany, France, and Italy had known much of the country to which they were sending, they would have forwarded their finest instead of their mediocre work, and have spared us many artistic horrors. Great Britain has shown, by her contributions, that she is still nearest and knows us best.

B. T.

FOREIGN PAVILIONS AND BOOTHS.

NOVEL FEATURES OF THE FAIR.

PHILADELPHIA, Aug. 18.—I notice that a large proportion of the visitors to the Exhibition are more

keenly interested in all the auxiliary features which reproduce, or in any way illustrate, foreign life, than they are in the mere display of foreign art and industry. The figures in costume, in the Swedish and Norwegian department, for example, constantly draw away crowds from the cases which contain the natural products or mechanical skill of the Norse people. The exhibits which are accompanied by exhibitors of another race, at once recognizable in features or dress, have a double attraction to the crowd. This is not only natural, but commendable: it simply shows how deeply rooted in all mankind is the feeling: *homo sum*, etc. It is something stronger and graver than curiosity. I have watched the faces of country people as they here—undoubtedly for the first time in their lives—look upon Japanese, Turks, Greeks or Moors; and I have not yet discovered the slightest expression of repulsion or instinctive prejudice of race. On the contrary, it is easy to detect an agreeable surprise, in most cases,—as if the spectator had found an unexpected likeness to his own stock, and recognized, if unconsciously to himself, that the ends of the earth are not so very far apart, after all.

So, after a general survey of the Exhibition, I determined to visit the pavilions and booths which assume to display as much of foreign life and habits as may be conveniently transplanted for a season, and to ascertain how far they are genuine. Having spent portions of two days in this interesting task, I feel sure that some report of my experiences may also have interest for the readers of THE TRIBUNE. These are features which are generally passed over hurriedly, in the descriptions of the contributions of each nation, since in most, if not in all cases, they are individual speculations. Provided, however, that the speculator gives an honest representation of architecture and costume, furnishes the genuine refreshments of his country, and sells the same knickknacks as at home, it makes no difference: we may have, through him, as much of Turkey, or Tunis, or Japan, as if the Governments of those countries had assumed the work.

Let us first enter the Turkish Bazaar, which stands nearly opposite the western end of Machinery Hall. It is a hexagonal wooden building, with heavy projecting roof, something like one of the fountain-kiosks in Constantinople. It is painted in large, coarse arabesques, blue being the predominant color. The interior, with its small marble tables, counter with sweetmeats, corner charcoal furnace for lighting pipes, and pervading atmosphere of tobacco slightly mellowed with roses, is a very fair reproduction of a café in Pera or Smyrna. My companion, Prof. Fiske of Cornell University, was also familiar with Oriental life, and we decided to try a narghileh (water-pipe) apiece. It was not the best specimen of Persian leaf which was furnished, and the fire was a coal instead of the Eastern pastille of mixed charcoal and camel's-dung; but we had at least the flavor of Asia Minor, if not of Damascus or Stamboul. The attendant was unmistakably Greek in feature, so I addressed him in a few words (recalled with difficulty from a memory of the language 18 years old), and was answered with

great alacrity. Thereupon I ventured to say "*Kali imera!*" (Good day) to a large, dark-browed dame behind the counter, who might have sat for a picture of Anactoria, and the greeting was returned. The proprietor, who wore the full costume of a Greek palikar, sat beside her: there was no doubt as to the nationality of the whole party. "You are Greeks," I said to the attendant, when the pipes were extinct. "Oh, no, we are Turks," he asserted; and no doubt they are—Turkish subjects. Wine of Samos, at 20 cents per glass, was on the *carte*, and we were classic enough to try it; but instead of the fine old vintage, warm and strong as the blood of Mars, which I have tasted in Athens, it was a common, turbid beverage, such as a Samian robber-chief might pour out to his band. Visitors who are classically inclined will therefore do well to keep Byron's line in memory: "Dash down yon cup of Samian wine!"

On the whole, the Turkish Bazaar might be worse. A Greek of Pera is hardly less picturesque than a Moslem of Stamboul, and what they furnish is genuine if not always of the best quality. There was a good attendance of curious visitors: some native youths were trying chibouks, which they naturalized by resting the long pipe-stem on the back of a chair. If the chibouk should ever be introduced into this country, somebody will at once patent a combined rack for the pipe and the smoker's feet. No one ventured to try a narghileh, and our performance was watched with furtive interest, one young gentleman taking such keen notice that I am sure he ordered one after we left. Lady visitors ordered fig-paste and coffee, the latter of which they evidently found more curious than enjoyable; but, if it were Mocha, they ought to have liked it.

Hard by there are two booths, one offering for sale a variety of olive-wood articles from Bethlehem, and the other rosaries, trinkets and other keepsakes from Jerusalem. There were three or four men in each, all of whom wore the dress, and had the faces, of Syrian Christians. I saluted them in Arabic and the response was so quick and cheerful that it was impossible to doubt their character. However, I asked further: "Are you Christians or Moslem?" "Christians!" they all exclaimed, and one of them added: "We are Orthodox, every one of us!" They were very cordial and communicative, and after a little conversation I felt convinced of the genuineness of themselves and their wares. The latter were offered at moderate prices, considering their character and the distance of transportation—50 cents, for instance, for a disk of polished olive-wood from Bethlehem or Mount Olivet, and \$1 for a carved Jerusalem rosary. The booths are so small and unimportant in appearance, being without any Oriental characteristic, that a hasty visitor would be likely to pass them without notice.

Just across Fountain Avenue, south of the Government Building, stands the so-called Tunisian Bazaar. There is no great difference between the common street-architecture of the Barbary Coast and that of Egypt or Syria, and this Bazaar may be sufficiently Tunisian in appearance: but that is

about all one can say of it. There are a few Oriental articles for sale, mixed with a great deal of the cheap jewelry which is manufactured in Paris for the African market: the houri in the spangled head-dress is an American girl, who wears a costume of no particular nationality in the most nonchalant Occidental style; and the gentleman in the fez is a German who speaks Arabic. I discovered these facts in about two minutes, and did not pursue my investigations further. Then I remembered having seen the sign "Moorish Villa" on a square red and yellow wooden building beyond Belmont Avenue, and hastened thither, meaning to lump the illusions together and have done with them. But, on entering the villa, I found that the sign was correct: it was a veritable Moorish house, small and somewhat cramped in character, but arranged and furnished throughout with the genuine articles. Furniture, carpets, divans, hangings, even the low circular table in the dining-room, were all of Moorish manufacture and use: it would not be possible to give a completer picture in so small a space. This is a speculation, of course, but an honest one; the articles exposed for sale, so far as I saw them, had the true stamp of country and race.

A gentleman in a turban and flowing yellow dress was lounging in the shade at a soda-water stand, near the villa. His fine, regular features and air of Oriental indifference attracted me, and I felt confident that he could be neither Greek nor German. So I walked up to him and said, abruptly, "*Salaam aleikoom!*" (Peace be with you!) He rose to his feet, returned the customary answer, "*Aleikoom salaam!*" and expressed his pleasure at hearing the language of the East. Nothing could be more graceful and quietly courteous than his manner: the seeming stolidity of his face melted into a frank smile, his eyes lighted up, and he used in speaking an Arabic much purer than the common Barbary dialect. Then it occurred to me that the true Oriental needs no test of language: his manner, his gestures, the tones of his voice will inevitably distinguish him from the imitation. Palgrave truly says that the most perfect gentlemen in the world are the Arabs of old and pure blood; and something of their dignity and refinement is sure to be found both in all collateral branches of the race and in the Oriental Christians and Jews. The Moor was from Tangier, as he informed me, but he had evidently traveled much and profited by his experience.

Almost in the bottom of Belmont Valley, beside the "New-England Farmer's Home of 100 years ago," which is always crowded with visitors eager to see the ancient costumes of the inmates, there is a booth marked "Algeria." It was so densely crowded yesterday, when I first stumbled upon it, and the choking hot-house atmosphere was so intolerable, that I could not examine the articles offered for sale; but the Algerine gentleman in blue dress and turban certainly belonged to some new variety of the Oriental race. His face was round and rosy, his eyes large and bluish-gray, and his beard and eyebrows the blondest of blonde. If I were not bound to take him, at least, for a Vandal-blooded Berber

from the Atlas Mountains, I should set him down as a Saxon from the shores of the North Sea. The natural gravity of one is about equal to that of the other; but I must admit that his costume was correct, and worn with the ease which denotes habit.

The Japanese Bazaar stands behind the Department of Public Comfort, in the midst of a quaint little garden, modeled, as nearly as the time and materials permitted, on those of Japan. Bronze cranes, seven feet high, are perched on the bank; two clumsy bronze pigs (liable to be taken for infant hippopotamuses, at first sight) are standing beside those curiously tufted dwarf pine trees, as we see on the native vases; and there is a pillar of gray stone, very much like an old Anglo-Saxon wayside shrine, planted in a bed of lilies. The native trees here, at the upper end of Landsdowne Valley, are large and shady, and the spot has already become a favorite resort. The building is strictly Japanese in style, plain and well-proportioned, but beautified by an exquisite pattern of wood-carving. It is stocked with a great variety of bamboo, metal, and lacquered wares, which find a ready market. The native salesmen, with their short-cropped hair and twinkling eyes, are unweariedly quick and inexhaustibly cheerful: they have evidently learned at home the advantage of keeping their customers in a good humor. Rapidly as the stock goes off, it is constantly replenished, and will probably be equal to the demands of the three crowded months now begun.

There are no more distinctively foreign booths or bazaars on the grounds, so far as I can discover, yet the Vienna Bakery deserves to be placed in this class rather than among the restaurants. Of the latter, the American, the Lafayette, Lauber's, and the Trois Frères, are neither new nor strictly representative. At the American there are mostly German waiters, and you can get many German dishes; the Lafayette does not differ very materially from it or from any other good restaurant in our large cities; Lauber's is professedly German, yet gives you most of the American and French dishes; and no New-Yorker will be likely to prefer the Trois Frères to Delmonico's. The cooking is sufficiently good in all, remarkable in none: the visitor may satisfy appetite and escape indigestion, but will hardly carry away memories of perfect viands. The most encouraging sign is the cosmopolitan character of the diet, the blending of various national elements—American, English, French, German, and even Italian—in the capacious bills of fare. Out of this an improvement of the art must surely come. Perhaps it would not be easy to keep up a restaurant of the very choicest character, without either positive loss or very slight profit.

The Vienna Bakery, however, depends for its success upon the production of two simple articles—coffee and bread. There is no mystery about the matter: the large windows are so arranged that the curious public may look in (which they do abundantly) and study the process. The American may here satisfy himself that good coffee is as easy to make as bad, and if he is hereafter satisfied with the

insipid slops poured out to him in so many hotels, his long-suffering deserves no relief. I used the local Viennese word and called for a "*mélange*"—which is a cup of coffee and milk ready mixed and topped with a foam of beaten white-of-egg. There was no mistaking the delicate aroma: the coffee might have been made in the Ringstrasse. The crisp *Kaisersmehl* were equally genuine, and the favor which they have already won among our people shows that a whole generation of "*saleratus biscuits*" cannot entirely destroy the taste for honest bread. I rejoice to learn that both New-York and Philadelphia are to have permanent Vienna bakeries, after the close of the Exhibition.

—After noticing so much that is agreeable, I may be permitted to mention one very unpleasant fact. The patent medicine man has forced an entrance into the Exhibition, and openly advertises his nostrums—of course with the permission of some branch of the Centennial Commission. His signs are placed along the railway which makes the circuit of the grounds, and although they are small and of subdued colors, the offense cannot be excused, as one of very different character is said to have been, by saying: "But it is such a little one!" All the approaches to the Exhibition are made so hideous by suggestions of disease that the grounds, at least, should have been kept free from this vulgar nuisance. I cannot understand why it was permitted—or why, if one is allowed to enter, the whole space should not be free to all.

B. T.

DISPLAYS OF VARIOUS COUNTRIES.

LETTER ON THE MERITS OF THE SEVERAL EXHIBITS.

PHILADELPHIA, Aug. 24.—I have already said that, taken as a whole, the Exhibition surpasses all its predecessors in beauty of position, convenience of arrangement, and variety of interest. The points wherein it falls short of the latter are certain features of the separate national contributions, and the causes of them may be readily explained. Before going into details, let me first lay before the readers of THE TRIBUNE the general aspects of the subject. I may do this, now, with all the less reserve, because in the case of Germany the effect has already been made public—but without any adequate consideration of the cause.

I shall give less offense by declaring, at the start, that America and Europe are equally to blame. The difficulties of the undertaking were far greater here than in any other civilized country, because its success depended mainly on the favor and coöperation of a public which was at first divided in opinion, then reluctant and mistrustful, and always whimsical. The possibility of success was reached through the exertions of a comparatively small class of persons: the small towns did more than the large cities: every step was questioned and obstructed; and the aid of the Government was doubtful until the last moment. We cannot wonder if Europe accepted at more than its real value the opposition of a part of our people and press, and the reluctance of Congress to advance the sum necessary to complete the buildings. Nothing of the kind could

possibly happen there, after an International Exhibition had once been determined upon; and the absence of a hearty union of effort, in this land of warring local interests, cannot be understood abroad. We, ourselves, therefore, gave the first impression that the Exhibition would either fall short of its grand design, or be large and ambitious but inferior in all its details.

On the other hand, the European nations are still very ignorant of our progress in all the arts of civilization. We chronically complain of English misrepresentation, yet the Exhibition—if nothing else—will prove to us that the English know more of us, and appreciate our industries and arts better, than any other foreign people. The prevalent opinion in Germany, as I have learned by years of uncomfortable experience, is that we are a wholly "material" people; that our development is chiefly physical; that we have little interest in Literature, Art, and Science. The same idea prevails in France, but is less general, simply because the educated class is so much smaller. In Italy there is a better understanding of the truth, through the long residence of American artists, authors, and men of fine culture. Russia, Sweden, and Switzerland have also somehow been drawn nearer to us, or at least have felt free to recognize our progress. But it may be accepted, as a general fact, that neither our intellectual development, our average culture, our taste and refinement, nor the stability of our institutions, our public order, the security of person and property, and the inherent purifying virtue belonging to our people, are recognized in Europe.

The exhibits made by Germany, France, Austria, and even Italy, reflect this lack of intelligence. Prof. Reuleaux, the Chief of the German Commission, who has been or is about to be recalled for his indiscreet sincerity, has described the contribution of Germany in terms of exact truth; and the very same phrases he uses will apply equally well to France and Austria. There is considerable variety in the articles displayed; as they are, they are very interesting and instructive; but in too many cases they represent the mediocrity rather than the genius of the national art and industry. In other words the contributions have not been specially selected (as at London, Paris, and Vienna) to represent the best achievements of the people. In the Machinery and Agricultural Halls the deficiency is much more noticeable than in the Main Building.

I cannot help feeling that even the American portion of the Exhibition might, with a little exertion, have been much improved. Considering the delay of most of the exhibitors, and the haste with which so many contributions were crowded in at the last moment, the general display is surprisingly good. In most cases, our people have sent their best, if they have not always displayed it in the best and most attractive manner. The foreign exhibitors, I hear, are astonished and not a little discouraged at the elegance of those branches of our industry which border on the domain of Art—such as furniture, silverware, pottery, etc. If the elements of taste and beauty could be separated from that of mere

mechanical production—which, however necessary, is often ugly enough—the former feature would be still more prominent. In machinery, the United States is *facile princeps*. The Agricultural display, also—for which we have been prepared by so many years of Agricultural Fairs—is the completest ever seen. Even in architecture, the Memorial Hall, which is more satisfactory every time it is seen, may challenge comparison with almost any modern structure. It suggests, indeed, both the Glyptothek and the Propylon at Munich, yet surpasses both in its simple elegance.

Thus, if we have not done our best, we have done enough to be satisfied with. The benefit which will result from this Exhibition is simply incalculable. It is a vast World-School for every branch of human activity. So far as Europe is concerned, it will teach Europe more, relatively, than it teaches us; but the lesson will redound to our advantage. The naïve surprise of Dr. Petermann, the geographer, at not finding the log-cabins of the first settlers still standing here and there in our cities, is a good average illustration of what even an intelligent European expects to see; and not a single foreign commissioner, exhibitor, or tourist has come to the Exhibition without giving vent to a greater or less quantity of amazement at its extent, beauty, and convenience.

Great Britain is not so richly represented as at Vienna, but she has done all we could expect. Her colonies, moreover, have never before made such a complete and interesting show. Canada, the States of Australia, Tasmania, and South Africa send collections which are really fascinating in their originality. The fac-similes of nuggets and gold-product, the photographs and pictures of scenery, the strange woods and animals of the southern hemisphere, are like glimpses of an unknown world to the visitor. The Canadian house, outside, is also admirable in design, though much marred in effect by its painted corners. But "Greater Britain" (to use Sir Charles Dilke's phrase) is, taken collectively, one of the most attractive departments.

Neither France, Germany, nor Austria crowds the space assigned, yet the contributions are ample in number if they had been more carefully selected. The simple truth is—and it may as well be flatly stated—that they seem to have been intended for spectators of a lower degree of knowledge and taste than those who flocked to Paris and Vienna. In walking through these departments I cannot help a recurrence (though in a milder form) of what I felt at Vienna on seeing in the American transept a pyramid of cheap perfumery labeled "*Eau de Mississippi*." I do not mean that the articles are not good of their kind, or not displayed to the best advantage; indeed, if I had not seen the former Exhibitions I should find them wholly satisfactory. But the contributions of these countries do not present their best performance.

Some of the smaller nations, however, have done admirably. They have taken less space, and then employed it to exhibit their work as a harmonious whole. They make up in arrangement and display

what they may lack in quantity. Spain, for instance, makes an excellent and really instructive show. The articles have evidently been selected with a view to illustrate the prominent forms of Spanish industry, and afford a good comparison with that of other countries. The Netherlands, Norway, Egypt, Japan, and China are characterized by a similar care of selection and arrangement, and the facility of studying the productions of those countries is thereby much increased. I do not wonder that all these departments are crowded with visitors, who appear to seek them first and to leave them last.

Of other American nations Brazil is indisputably the first in her display. This is the best exhibit she has ever made—except, perhaps, on her own soil. The collection of articles is rendered more attractive by the Moresque pavilion which incloses them. It is really not a bad idea for a nation thus to advertise itself. These interior structures tower over the multitude of show-cases, piles and pyramids of objects, and form so many landmarks in the Main Building, naturally drawing the visitors as they enter. Chili and the Argentine Republic have very favorable situations at the west end, and make a very commendable show. Italy, Norway, and

Sweden, on the opposite side, offer a strong contrast of character. Each fills its space well, but the Norse folk, aiming at a substantial representation of what they are and can do, without reference to beauty or grace of ornament, make the most satisfactory exhibition. That of Italy is inadequate in this respect: it does not show her at her best.

Russia has not only done a graceful thing in taking part, but she has done it very thoroughly. Her department is not large, but it embraces a great variety of articles, arranged in the best possible manner. Our Minister to St. Petersburg, Mr. Boker, prevailed upon the Imperial Government, at the last moment, to unite in the Exhibition; the contribution did not arrive until after the opening; and it is a wonder to find it so complete and well-ordered. Russia has every reason to be satisfied with her appearance here.

I have thus given a general and rapid comparison of the exhibitions of the various countries within the Main Building, both with regard to their relative quality and that of former shows of the kind. Detailed descriptions of the various departments have already been given by other correspondents of THE TRIBUNE, and I do not propose to intrude upon their field.

IV.

NATIONAL EXHIBITS.

GREAT BRITAIN.

TEXTILES—CLOTHING—JEWELRY—MUSICAL INSTRUMENTS—CHEMICALS, ETC.

PHILADELPHIA, May 15.—In textile fabrics the British Section makes, on the whole, a finer exhibit than that of any other country. It is not as extensive as the display of our American exhibitors, or as rich in silks and velvets as that of the French, but it embraces a wider range than either, including the most delicate lawns and the heaviest woolen cloths, the pretty bookmarks from Coventry, the cheviots of Scotland, the linsens and poplins of Ireland, and the multiform fabrics that go under the name of dress goods. Very beautiful are the terry and brocaded poplins from Pim Brothers of Dublin. I never could understand why the Irish, who, as a race are deficient in artistic qualities, should excel in the manufacture of these rich silks, and have sometimes doubted whether such poplins really came from Ireland. Here is the indisputable evidence of their origin, however, in fabrics that for beauty of pattern and color are not surpassed in the court of the Lyons silk-weavers. An excellent line of curtain silks is made by Morris & Co. of London. Of English broadcloths and other woolen goods I do not need to speak, except to commend the orderly and convenient method of installation, the different materials being arranged in broad perpendicular plaits in cases having no glass fronts, which make it easy to examine the texture. A case of military cloths is

radiant with more hues than the rainbow can show. A great case full of lay figures costumed in elegant dresses, from Hitchcock & Williams, London, is a center of attraction to lady visitors, and rivals in this respect the cases of Irish laces.

The London jewelers are not well represented, and one misses the massive bracelets and chains of light, yellow gold, solid and ugly, that fill the windows of the Regent-st. shops. I never fancied English jewelry, except for its appearance of real value and durability, and do not much regret its absence; but I do miss the marvelous display of diamonds that dazzled us at Vienna. Not a single precious stone of considerable value is found in the very slender array of jewelry made by three or four exhibitors. James Archeson of Edinburgh, whose specialties of cairngorm stones and pebbles set in silver so often figure in tourists' collections as souvenirs of Scotch travel, makes a beautiful display. Among his curiosities are rams' heads, with the horns tipped with amethysts, and cigar cases of chased silver buried in the wool above the eyes. They cost from \$200 to \$400. The gem of the collection is the largest cairngorm stone yet discovered—a stone as big as a small apple, and of the color of a smoky topaz. John Neal shows quite a general assortment of jewelry, some fine cutlery, plated by a process that drives the silver into the steel, so that it cannot be worn off.

Whoever has visited Ireland will remember having his curiosity awakened in Dublin by a sign in

one of the principal streets that reads, "Goggin, Bog-oak Carver to Her Majesty, the Queen." Of course he went into the shop, as all inquisitive Americans do, and came away with some of the pretty ornaments sold there. The house makes a large display here. Bog-oak is a brownish-black wood of very solid grain, and is worked into brooches, bracelets, caskets, card-cases, and an infinite variety of other ornaments. Close to the case of Mr. Goggin is an exceedingly artistic exhibit of Whitby jet, made by Francati & Santamaria, an Italian firm domiciled in London. Some of the larger pieces, intended for wall ornaments, bear exquisitely carved medallion heads in high relief, and in sets of jewelry the jet is used with admirable effect as a setting for cameos and mosaics. A display of needles and fish-hooks, made upon a paneled screen of ornamental woods and gilding, is so strikingly novel and tasteful that it arrests the most hurried visitor, who is sure to pause also before the neighboring case of pens which rivals it for uniqueness. There are 14 exhibitors of watches and chronometers, including some of the most celebrated London and Liverpool firms. Frodsham & Co. show, besides their fine modern instruments, the original chronometers made by the inventor, John Arnold, about 100 years ago. M. F. Dent exhibits the different forms of compensating balances.

The show of chemical preparations is one of the strong features of the section. Eighty-five exhibitors combine to make it. Among the articles that will delight scientific men are beautiful crystallizations of caffeine, aloin, and codetac sulphas, from J. H. Smith & Co., London; iridescent crystals of chlorate of potassium from Ferguson Bros., and a large roseate mass of bichromate of potash from J. & J. White, Glasgow. The perfumers and toilet soap makers are well represented in this group. So are the makers of inks, of soda in its various forms, and of paints. Among the novelties is spirit of eggs in pint bottles, and an indelible ink that requires no heat to bring it out. Very creditable specimens of landscape and figure drawing on linen and cotton are done with the ink.

One of the very few disappointing features in the British section is the group of metallurgical products. It contains only 19 exhibits, and several of these are so small as to escape attention. Of iron in the form of ores, pig metal, rails, and steel, there is but a single noticeable collection, that of the West Cumberland Company. Tin plates, even, make a better appearance than the great foundation staple of English industry. Wire ropes are prominently shown; and there is a grand display of work in galvanized iron. Charles W. Siemens, the inventor of the celebrated furnace that bears his name, exhibits a number of models of regenerating gas furnaces for iron and glass. Monumental granite of two kinds are shown—the familiar Aberdeen granite, and a mottled gray stone, of almost equal beauty, from Beesbrook quarries, Ireland. There are also a variety of roof tiles, and many specimens of concrete blocks made from Portland cement, fire-clay retorts, chalk, whiting, emery, &c. A single

exhibit of coal appears in the catalogue, but it must be very small, for I failed to encounter it. A good display is made of shot-guns and rifles by 17 exhibitors, one of whom adds to his show of shooting apparatus a curious contrivance called the registered flyer, which flies in the air like a bird, for amateur sportsmen to bang away at. In the groups of hardware, cutlery, and edge tools there is only a moderately large display. Two of the great Sheffield cutlery firms do themselves credit, and there are three or four cases of tools and hardware. It is evident from the slenderness of this group, and from the scanty display of iron and steel in all forms, that our own manufacturers have conquered their home field, and that their chief foreign rivals have practically retired from competition with them.

Some cases of writing and printing papers will attract the notice of dealers in those articles. The playing-cards, covering large screens, will receive more attention. In the group of Education and Science there is next to nothing in school books, apparatus, or furniture, the few exhibits, with the exception of a single case of school books, being illustrated publications, standard literary works, music books, and specimens of the art of the engraver and chromo-lithographer. *The Illustrated London News* sends a large screen covered with engravings, *The London Graphic* has an office partitioned off for the use of its artist and correspondent. In the center is a small press run by a gas-engine on circulars for distribution. The walls, inside and out, are hung with the original sketches of hundreds of the best *Graphic* pictures, among which are sketches taken in Paris during the siege, and sent by balloon or pigeon post. There are perhaps half a dozen exhibits of books. Bradbury, Agnew & Co. have a tasteful pavilion of glass and wood filled with their publications. Around the cornice, in gilded church-text letters, is this apt quotation from Shakespeare: "Come and take choice of all my library, and so beguile thy sorrow." The hexaglot Bible of Dickman and Higham in six quarto volumes will excite the enthusiasm of bibliomaniacs. The kindred group of scientific and philosophical instruments is tolerably full, many of the best London makers being represented. There is also a good collection of objects mounted for the microscope.

The display of carpets is exceedingly fine, and in the way of Axminsters woven in a single piece much the best in the entire Exhibition. A series of inclosures under the gallery on the north side of the portion of the building occupied by the British section are covered on walls and floors with these beautiful fabrics. Much the largest exhibitor is the Glasgow house of Templeton & Co., but there are at least a dozen firms that make creditable displays, including John Crossley & Sons of Halifax, Yorkshire, who are probably the best known in this country of any English makers. In the line of floor oil-cloths the display is remarkable for the immense size of the cloths made in a single piece. Under these useful articles is hung an object which, though classed with them, is intended solely for decorative pur-

poses. It is a painting of the "Last Supper," on a material which, if not the oil-cloth of commerce, closely resembles it. The piece is about nine feet long by four feet wide, and the price is £150. An explanatory card recommends this kind of work for churches. For my part, I should prefer a tolerably good painting on canvas, which could be had for the same money.

FRANCE.

EXHIBITS BELONGING ESPECIALLY TO THE DOMAIN OF LADIES—DRESSES, SHAWLS, LACES, BRONZES, PORCELAIN WARE, FURNITURE, ETC.

PHILADELPHIA, June 2.—The newspapers have been a little too hasty in their judgment of the French section. All their criticisms about the tardiness shown in getting it ready were well grounded, but when its comparative merits were discussed while half the cases were unfilled, conclusions were arrived at which will have to be revised. Now that order is established it must be conceded that the section as a whole will prove to many people the most interesting in the Exhibition, and that in more than one group of objects it is unequalled. It is not worth while to go into comparisons, but I may say that if the Berlin porcelain were taken out of the German section, and the Elkinton silver, the porcelain, and the Doulton ware out of the English, in respect to beauty the areas occupied by those countries would rank with that of France very much as a potato-field does with a flower-garden. In Germany and England, as in the United States, there are a few industries in which the artistic element has been developed to a high degree, but in France the quick perception of beauty characteristic of the Latin races is manifested in a very wide range of manufactures, so that articles which from their uses are elsewhere wholly commonplace, are elevated almost into the domain of art. Where the things shown do not themselves admit of any grace or ornament, the French exhibitors have a knack of arranging them to produce attractive effects. Thus the predominance of articles of real beauty, such as the bronzes, porcelains, faience, laces, jewelry, and the innumerable host of *articles de fantaisie*, and the systematic and tasteful arrangement of the plainer wares and fabrics, combine to make the French section a delight to people of cultivated taste. It is also especially the domain of the ladies, and its portals might be appropriately inscribed, "*Place aux Dames*," for nowhere else are there so many elegant things, such as women most covet—lace shawls of the finest workmanship, silks in a profuse variety of color and pattern, rich brocades and velvets, lovely embroideries, costly Paris dresses, heavy with flowers and real point lace; silk stockings with lace inserted at the instep; the daintiest of shoes and slippers, jewelry, fans, ribbons, artificial flowers, and a thousand quaint and pretty articles for the writing-desk, the mantel, and the boudoir-table, all admirable in their way. If one goes with a lady to the Exhibition and gets involved in this region of dress and decoration, he be-

comes lost for the day. It is useless to suggest the American silverware, the English pictures, or the Italian carvings as counter attractions—their charm does not work within the limits of the French Section. This marvelous shawl in black lace, or that dress of white satin with its long trail embroidered with silk and gold thread, exercises a more potent spell.

In case one wishes to make a serious tour for information among the French cases, and has a lady with him, let him begin with the bronzes, or the chemicals, or the carriages, and keep out of the dangerous region where the Paris modistes and jewelers set snares for his feet. He may venture into the superb court of the Lyons silk manufacturers, but should go no further. Here may be learned how much more effective is the display of silks, to which perhaps 40 makers contribute, than it would have been if each had set up his own case. In the center of the court, seated upon the soft cushions of the comfortable divan, you get at a glance the striking effect of the whole display. Thus seen, the *tout ensemble* of the exhibit of this industry is remarkably brilliant and impressive, whereas if the articles had been installed in a long line of small separate cases, they would have been monotonous and wearisome.

But to begin with the bronzes, which have the place of honor at the crossing of the nave and transept of the building, where they face the English and American silverware and the German porcelain. Barbedienne, the most celebrated of the Paris *bronzes*, is not represented, and two or three other famous houses are also absent. Marchand shows some fine pieces, but nearly all are copies of old works. One of the best statues is Bourgeoise's Negro Snake Charmer, which bears date 1862, and gained for the artist that year the *Prix de Rome* (two years for study in Rome at the expense of the French Government.) Bourgeoise's Kabylean Laundress is also here—a woman nude down to the hips, who stamps upon a pile of clothes while she turns water upon them from a pitcher. Both these figures, which appear to be companion pieces, are full of action. Two other figures, representing Egyptian dancers with a triangle and tambourine, are almost as good. Recent art is best represented by Schönewerk's "Boy and Tortoise," which received a gold medal at the Salon of 1875. A nude boy (life size) has discovered a tortoise, and is down on his knees upon a rock, cautiously picking up the alarmed animal. Very imposing from its great size, and admirable for the pure classic taste it displays, is Marchand's great mantel of black marble and bronze. It is 16 feet high by 11 wide. The principal decorations are in verd antique and gilt bronze. Under the cornice and in front of a dead black tablet with Pompeian border of gilt and colors is a gilt statue of Minerva, and at the sides of the fireplace are figures representing the wise men of Greece. The price of the mantel is \$10,000. The same figure is named for a large circular sofa called a *pouf*, in the center of which is fountain in red antique marble surmounted by a bronze candelabrum. The upholstery is green satin, and the frame and legs are in richly chased silver

bronze. One would say that such a piece of furniture would only be in place in the show rooms of a palace. Some beautiful bronzes are exhibited by *Susse Frères*. Their chief piece is a colossal bust of Washington, two meters high, by H. Cros, cast in a single solid piece. The expression is noble and heroic, and the artist has evidently allowed his own conception of the character to influence his work as much as the current portraits and busts. It is to his credit that he has borrowed nothing from the concealed and inane face on Houdin's statue. For fineness of workmanship there is nothing outside of the Japanese bronzes that equals Grégoire's group of the Rape of Hersilia in the *Susse* collection. Although the group is only about two feet high, the texture of the skin of the two figures is worked out with chasing instruments with almost microscopic minuteness. An enlarged copy of Pradier's well-known "*Atalanta*," the "*Sappho Meditating Suicide*," by the same artist, and Jules Moignier's "*Pointer and Pheasant*" are also shown here. An admirable mantel group by the Comte de Nieuwerkerke represents the death of the Duke of Clarence, who is being unhorsed by a French knight. The figures are in brass and the armor and harness in nickel. The clocks and salvers in hammered brass shown by this firm are very fine, and they have also some handsome work in Algerian and Mexican onyx. Under the title of *Bronzes de Fantaisie* the Paris house of Kaffel shows a great variety of very attractive work in vases, tables, candelabra, flower stands, caskets, &c., of gilt and silver bronze in combination with porcelain and glass. In its line, this work is not equaled in the Exhibition.

The porcelain exhibit adjoins that of the bronzes. From the absence of the Sèvres ware, which is shown only in the Art Hall, this group shows somewhat to disadvantage in comparison with the neighboring one in the English section. Its strong points are the display of *Palissy* ware made by *Barbiset*, the grandson of the man who discovered at Dijon, fifty years ago, the secret of Bernard *Palissy's* method, and the reproduction of fifteenth and sixteenth century faience. I leave this group for special treatment by a competent critic, in connection with the general subject of ceramic art at the Exhibition.

The French ought to have given us a good exhibit of furniture, but they have sent us next to nothing—in fact, nothing to represent the styles of the present day. A gigantic bookcase of heavily carved walnut in the Louis XV. style, costing \$5,000, and a cabinet of ebony and lapis-lazuli in the Henri II. style, marked \$6,250, are of course very beautiful, but we would gladly have seen, besides such extravagant curiosities, something to show what kind of chairs and sofas the French sit on, what kind of beds they sleep upon, and the tables, washstands, and bureaus they use—things handsome enough to be worth bringing across the ocean, but at the same time cheap enough for people who are not millionaires to purchase. Except some pretty tables and secretaries inlaid with porcelain tiles shown by an exhibitor of porcelaine, a few gilt-framed mirrors, and a wardrobe

with mirrors that swing around from the back in front of the mirror-door, so as to show the figure in front from all possible points of view, there is only a single exhibit of furniture—the costly one I have referred to. While speaking of the silk court I meant to have mentioned the method one of the makers has taken to advocate his free-trade theories. On a piece of black silk he has woven in colors a race-horse going at full speed, with a jockey on his back. Below, on a scroll, is "*Liberté Commerciale*," and from the jockey's waist fly the ends of a scarf with the legend, "*Libre Exchange*" (free trade). The display of cocoons and skein silk made by a number of firms is very fine, one house exhibiting 50 varieties of cocoons.

GERMANY.

SUPERB BERLIN VASES—MUGS AND MOTTOES—JEWELRY, DOLLS, PIANOS, AND BOOKS.

PHILADELPHIA, May 26.—The German Section does not offer many attractions to those who seek only for articles of beauty, and regard all things that can lay claim to utility alone as cumbering the ground in an exhibition. Such visitors must content themselves with the superb display of porcelain from the Royal Prussian factory, and may as well pass on to some other section, without stopping to explore the aisles lined with good stout woolen cloths, red cotton handkerchiefs, table-cloths, ropes, baskets, and a hundred other objects that make no pretensions to being anything else than homely and good. The German idea of an exhibition is not a show of things that please the eye or gratify an artistic taste, but a collection of all important natural industries, including articles made for the use of peasants as well as of princes. Many sharp criticisms have appeared in the German-American newspapers on the general character of the exhibit, charging that it is a sadly incomplete and unsatisfactory representation of the industries of the Empire, and the chief German Commissioner, Prof. Reuleaux, published in a Berlin newspaper still more severe strictures. He declared the section to be wanting in taste and in evidences of progress. Americans will be more lenient in their opinions. While disappointed that Germany has sent so few things that are worthy of admiration either for excellence of manufacture or beauty of design, they will scarcely be inclined to apply the epithet "cheap and trashy" to the whole display, as the Commissioner does. They will find much that is interesting, and will get from the section as a whole a tolerably correct idea of the general characteristics of German manufactures. As a place for agreeable sight-seeing it must be admitted, however, that the section does not compare with those of France, England, Austria, or Russia. The arrangement of the principal exhibits is faulty in one or two respects; for example, the collective display of the book publishers, which, next to the porcelain, is the best feature of the whole section, ought to have had a place in the main aisle, where it might well have crowded out the mirrors, cheap jewelry, and coarse bronzes.

I must leave to one skilled in ceramics a full description of the porcelain display. It is confined to the single Berlin factory, none of the Dresden makers contributing. It would seem that Berlin has left Dresden far behind in this branch of art industry, and that the older factories of the Saxon capital do not venture to compete with their Prussian rival. These massive vases are not equaled in the Exhibition for richness of decoration, and for the artistic merit of the paintings upon them. Among the masterpieces of the collection are the Germania vase, with "Germania cultivating the arts and sciences" upon one side and "Borussia the shield and protectress of the Empire" upon the other (price, \$5,000); the Aurora vase, with its beautiful copy of Guido's Aurora (price, \$4,500); the Otho vase, of dead olive green, with "Otho in the vault of Charlemagne" (\$900); a center-table of carved oak, with a copy of Raphael's "Poetry" painted on its porcelain top (\$2,200); and a copy of one of Raphael's Madonnas on a large flat square framed like an oil painting (\$650). I give the prices as the most effective way of conveying to the reader's mind an idea of the beauty of these works.

It is a long step down to the prosaic when one goes around on the other side of the screen that supports these costly articles and finds a lot of common pottery—washbowls and the like. The gray stone beer mugs and pitchers near by, imitating in their forms and their blue decorations old German ware, are, however, by no means to be despised. Their quaint shapes and curious figures in relief, and the homely-rhymed wisdom inscribed upon them, repay a careful examination. Here is the motto on a mug big enough to hold a day's supply of drink for a small family:

Ein böses Weib und Sauer Bier,
Behüt der Himmel dich dafür.

Which might be thus freely translated:

From sour beer and a scolding wife
May heaven protect thee all thy life.

To which sentiment all good beer drinkers, whether they be Germans or not, will say amen. Another couplet runs:

Wer nicht liebt und trinkt und singt,
Es nie zu wahren freude bringt,

a sentiment which the total abstinence people would want to amend in one particular. In English it would read somewhat in this way, reversing the lines:

To none will fate true pleasure bring
Who does not love, and drink, and sing.

The display of bronzes, which occupies a prominent position, is not worthy of criticism beyond the remark that it does not fairly represent German art in this line. The work has a cheap and dirty look. Even in the principal show-piece, a copy of the monument to Frederick the Great in Unter den Linden, Berlin, the modeling is roughly done. Jewelry of the cheaper kinds is profusely displayed by the manufacturers of Pforzheim and Hainau. Most of it is pinchbeck, but the imitations of gold and precious stones, and especially of the diamond sprays and birds of paradise that were so popular in Paris a few years ago, are so admirably done as to deceive any one who does not give them a close inspection. Even

then, in some cases, only the prices marked under the articles reveal their real character. Of genuine jewelry there is some good work in enamels and cameos, and a little in precious stones. The oxidized silver caskets are also very pretty; one with scenes from "Hermann and Dorothea" will be coveted by all admirers of Goethe's poem.

The great German specialty of toys and dolls is only moderately well represented. Magdeburg and Nuremberg contribute, the Magdeburg collection coming from the store of a Philadelphia importer, who bears the appropriate name of Doll. The exhibit of ivory in the tusk and in all forms of use and ornament in which the material is worked is unique and tasteful; and the way in which the tusks of different size are made to set off the architecture of the great ebony show-case is very striking. There would appear from the number of makers contributing to be a good exhibit of German pianos. I am not, however, sufficiently familiar with the German instruments to say whether the best makers are represented; but from the fact that most of them call themselves *Hof-fabricanten* we might conclude that they were. Here is the list as I made it by lifting up the covers: Ernest Kaps, Rudolph Sohn of Barmen, Edward Seiler of Liegnitz, G. Swechten of Berlin, J. Bluthner of Dresden, H. L. Neumann of Hamburg, Altenburg & Grenie of Bremen, and Schredmeyer of Stuttgart. It is needless to say to Americans who have been abroad that all the instruments are either grands or uprights. The square form is only met with in this country; it went out of use long ago in Europe. Cabinet organs are shown by two makers, brass horns and violins by a firm whose sole market is in the United States, and there is a good church organ of moderate size.

The region assigned to textile fabrics is large and well filled, but there is little in it worth noticing except for the cheapness and durability of the articles. The Elberfeld manufacturers fill immense cases with their cloths, cassimeres, cottons and mixed goods, and one of them shows, by way of contrast with the rest, some delicate fabrics with figures in gold thread that seem to have wandered away from the East Indian cases across the main aisle. There is one exhibit in this group that is exceedingly striking, and ought to have been given a more prominent place. It is a tall pagoda, showing in its construction only velvet, gilt, and glass, and filled with the brilliant-hued fabrics of velveteen from an establishment in Linden, Hanover. Some very pretty effects of color are produced in the arrangement of the different stuffs. The Berlin wools near by are also well arranged for color effects.

Good exhibits are made of chemical products, dyeing preparations, gelatine, medicinal barks, bronze powders, essential oils, &c., and the systematic arrangement of these articles calls for commendation. There is a case of what the visitor supposes at first to be wax fruit but which turns out to be soap. Not only are all sorts of fruit closely imitated, but the soap-makers' fancy runs riot in slices of sausages, pieces of cake, eggs, and sardines. A case of all the kinds

of amber found in the Baltic is a novelty. Like a diamond in the rough, amber in the dirty yellow chunks in which it is taken from the sea gives no hint of its beauty.

Continuing our tour, we find represented only one of the numerous Farinas, who labor in their bad-smelling City of Cologne to perfume the world. Two of the pencil-makers, Faber and his chief rival, make extensive displays. There are mirrors of every size, some of them as large as the side of a house (a very small house of course); a few pieces of handsome furniture from the court cabinet-maker in Dresden; basket-work, ropes, wire-cables, artificial flowers, and numerous other ordinary articles that I need not catalogue. A Munich dealer in church ornaments and plaster figures of saints, crucifixions, and madonnas, displays his wares in a business-like manner, rather shocking to Protestant ideas. He has a life-sized "Christ on the Cross," a "Christ in the Sepulcher," and holy virgins and saints without end, brilliant with paint and tinsel, each ticketed with its price. The faces of the madonnas, by the way, are all marked by an expression of sweet sympathy and refinement. A large altar in oak, with painted panels and numerous figures in niches, is valued at \$3,000, gold.

No German exhibit would be complete without the clocks of the Black Forest. We find them here, however, in no such abundance and variety as they were at Vienna; the exhibit being not much finer than can be seen in the New-York shops. Freiburg in Silesia competes in the same peculiar industry.

Physicians and surgeons will not fail to seek out in a corner next the wall the very interesting show of appliances for the treatment and care of the sick and wounded. There are models for hospital wards, a model hospital train, all sorts of surgical appliances and illustrations by photographs of different operations. Noticing hastily the cutlery and tools, which, like too many German manufactures, are distinguished by cheapness rather than by elegance, and stopping a moment before a large church-organ and an orchestration—an objectionable contrivance that aims to supersede an orchestra by a machine—and halting also to examine the two models of ocean steamships sent by the Hamburg-American Company (one a longitudinal section showing the interior construction of the vessel from keel to deck), we come at last where we ought to have begun had the section been properly arranged, at the admirable collective exhibit of the German publishers—the largest single exhibit in the section, and the most interesting. The inclosure of black wood, with its double row of counters and alcoves, contains many of the choicest publications issued from the German press in recent years, and is rich in illustrated works on architecture, art, engineering and the natural sciences. The books are not locked up with jealous care behind glass, like those in the cases of the American Book Trade Association, but are open to the free inspection of visitors.

ITALY.

MOSAICS, CAMEOS, WOOD CARVINGS, CORAL, FICTILIA, AND JEWELRY.

PHILADELPHIA, July 20.—The Italian Section in the Main Building is disappointing to those who have been in Italy and have seen Italian industries at home. It has a decidedly shabby look, almost every case having its attendant tradesman ready to drive as hard a bargain with a customer as he can; but the chief complaint that lies against the section is that many of the articles are not the best of their kind, not as good in fact as the best shops in Florence, Venice, Rome, and Naples can show. Yet it is probable that ninety-nine visitors out of a hundred are greatly delighted with what they see. They are not troubled with the knowledge that Italy might and ought to have made a much finer display, and have therefore no feeling save one of delight at the sight of so many pretty and artistic things. The whole space, with the exception of a little area next the wall, is filled with the products of the peculiar Italian art industries—the mosaics of Florence and Rome, the filigree-work of Geneva, the glass of Venice, the corals of Naples, the jewelry of Turin, the beautiful work in carved and inlaid woods from half a dozen cities, bronze statues and bas-reliefs, reproductions of ancient faience, cameos and cabinets of ebony inlaid with ivory, lapis-lazuli and carnelian. To most people all these things are new revelations of beauty. It is perhaps not worth while to dwell upon defects manifest only to the eyes of the traveled few, and to point out wherein this, that, or the other class of exhibits could have been improved. We should be satisfied, remembering the small and tardy aid given by the Italian Government, and its determination not to take part in the Fair, only reconsidered at the last moment, that the country is even tolerably well represented. One can get a correct idea of the kind of things the Italians make in the way of ornamental work, if he cannot see the best of the kind.

The carved wood-work forms the most meritorious group. A huge mantelpiece and a mammoth bedstead with canopy give by their broad spaces full play to the carver's fancy, and are richly ornamented. But there are a multitude of smaller objects—mirror frames, tables, cabinets, caskets, &c.—that are fully as admirable. The art is an old one. Like so many other Italian arts it flowered in the fifteenth and sixteenth centuries, and the best specimens now produced follow closely the styles of the masterpieces of those times. It has a wide range, embracing the most delicate forms of vines and flowers in low relief, and bold realistic figures, like that of the crouching ebony slave holding a table on his head and hands. A curious departure from received canons of taste, that can scarcely be commended, is a dual imitation in minutest details of a ruined arch and fountain that comes from Naples. It is executed in a dark brown wood, and is a wonderful specimen of delicate work, and yet I cannot imagine why any one would care to possess it. There is something manifestly incongruous in copying a stone ruin in such a perishable material as wood. If it were rec-

commended as a striking example of what can be done with the knife and chisel, one might well prefer this mirror frame with its group of cupids rolling around it, or that mantel with its rich profusion of sculptured foliage.

Akin to the wood-carvers' art is that of inlaying with different colored woods so as to form flowers, vines, arabesques, and even landscapes and figures, which is practiced in perfection in Sienna; but there are no good specimens of it exhibited. Another kindred art consists of inlaying ebony and other dark woods with semi-precious stones, like lapis-lazuli, bright-colored marbles, malachite, onyx, &c., and of this there are a few fair examples in cabinets and caskets. There are a multitude of small bronzes of a peculiar yellowish green color, or of a dirty brown—reproductions of antique statues, for the most part. Of their merit it is not necessary to speak. A copy of the Cupid and Psyche of the capitol might, however, be praised. The terra-cotta figures intended for garden ornaments, which are abundant, are good in their way, and cheap. Venice does not send a creditable representation of her work in glass. The mosaic tables are good enough, though not of the best. The mirror frames are too small to show fully the brilliant effects produced by building up leaves and flowers of white and colored glass while hot and plastic. The candelabra supported by swarthy Nubians in gay tunics and turbans are better. The beads are as pretty and varied in color and device as they can be made; but the vases, pitchers, and other vessels are inferior in size and decoration. There are some wonderful pictures of glass mosaics—the most remarkable being a landscape about eight inches by twelve in size that few would imagine to be anything else than an oil painting.

Some very faithful reproductions of old Italian faience merit the attention of ceramo-maniacs, who will find the copies to possess all the vigor and quaint ugliness of the samples of the original ware in the Castellani collection in the Art Hall.

I find no creditable specimens of Roman mosaic—the art of making pictures of landscapes, buildings, faces, and flowers of very small pieces of glass—except such as come from Venice. In the Art Hall however, there are a number of excellent examples of the wonderful effects which this art can produce. His Holiness the Pope sends a copy of Raphael's Madonna del Seggiola and of a Madonna after Sasso-Ferrato, while nine visitors out of ten pass by with a glance, supposing them to be paintings. August Moglia and R. A. Gallaudt contribute a number of excellent picture mosaics representing scenes in Rome, and the latter exhibits a large head of Washington, which he has presented to the City of Philadelphia. The Florentine mosaic is pretty well represented in jewelry and in a few table-tops, but the finest pieces must be sought for in the art annex. This art, I may remark for the benefit of those who are not informed upon the subject, consists of cutting holes in three slabs of black marble and fitting pieces of colored stones and of the pink linings of shells so as to form leaves, flowers, and

birds, and sometimes of figures. The colors of flowers and foliage are very accurately reproduced. In Florence the many beautiful objects made of this mosaic work are very cheap, but they are dear enough here. An interesting exhibit is made, in a small case that no doubt escapes the notice of many visitors, of the different kinds of stones used and the articles in the various stages of progress. The art of cutting shell cameos is also illustrated in like manner.

Handsomeness exhibits of coral are made by two or three Neapolitan firms, but there is nothing in their well-filled cases that is finer than one can see at the principal jewelers in New-York and Philadelphia. The Genoese work in gold and silver filigree fills a large case, but here again there are no articles of remarkable beauty, or if there are, they are so much obscured by the cheap and common objects as to be unnoticed. The adjoining display of the same kind of work in the Norwegian Section produces a much more favorable impression. A rich display of jewelry is made by the Court jeweler, who has establishments at Turin and Rome, the *chefs d'œuvre* of his collection being a heavy necklace of diamonds and rubies, set in silver, a smaller one of pearls, surrounded by small diamonds and rubies resting on filigree work, and a massive necklace of gold and sapphires, sold to the Empress of Brazil for \$4,000. Beautiful tiaras and necklaces in Etruscan style are shown by Signor Castellani—the latter with balls of granulated gold and scarabea pendants. Other artistic work for personal ornament that demands notice is that in tortoise shell, and the brooches and earrings carved in flower-forms from the roseate linings of conch shells.

Passing now to the region of more strictly useful articles, we find leghorn hats, gloves, shoes, coarse woolen blankets, buttons, bed-spreads, hats, brushes, soaps, candles, chemicals, perfumery, paper, and books. We look for the superb velvets of Genoa, but discover only one little case with a meager representation of this important industry, and when we seek for the silks of Turin that were displayed in dazzling profusion at the Vienna Exhibition, we find nothing. An instrument for writing notes played upon a piano would appear to be a blessing to composers, but the exhibitor speaks no English and does not command a sufficient stock of French to be able to explain how it works. Back near the wall, gazing out at sea from his island home of Caprera (so the artist intended, but as placed the figure fixes its glance, appropriately enough, upon the plans for the improvement of the Tiber), is a plaster statue of Garibaldi. Near by is a Cremona violin, 171 years old, that belonged to Paganini, and can now be bought of his heirs for \$1,000. We end our tour among the large photographs that cover the walls around the statue. They bring Italy more vividly to mind than all the bric-à-brac we have been looking at for the past hour.

AUSTRIA—HUNGARY.

THE WONDERS OF BOHEMIAN GLASS—ELABORATE MEERSCHAUMS—PHOTOGRAPHS—A GENUINE BAZAAR OF INDUSTRIAL PRODUCTS.

PHILADELPHIA, May 29.—The Austro-Hungarian Section is not a place to hurry through. There are so many curious and beautiful articles that lay imperative claims upon the attention and admiration of the visitor that haste is out of the question. Besides, one is sure to be delayed so long on its frontiers by the exquisite Bohemian glass and the wonderful work in amber and meerschaum that the time he had intended to devote to the entire section is gone before he has fairly entered it. I need hardly say that there is no glass in the Exhibition to be compared with that which comes from Bohemia. People who have seen only the cheap red and blue ware sold in the china shops under the name of Bohemian glass, must not imagine that they know what I am talking about. The finest of this ware is only to be found in a few streets in the large Eastern cities, and the very finest is rarely to be seen out of the possession of wealthy collectors. There are not many merchants who would pay \$180 for a small glass fruit dish, and run the risk of securing a purchaser with taste enough and money enough to take it off their hands. The highest grade of artistic work goes into the decoration of the pure uncolored glass, which is ornamented by the aid of the emory wheel, with ground figures, vines, leaves, flowers and arabesques of exceeding delicacy. It is the ruby and emerald wares, however, set off with gold, which, from their brilliant colors, attract most attention. A pair of ruby vases, standing on pedestals, the pieces being about 3½ feet high, is valued at \$900. The imitations of old Vienna ware, in dark green, with armorial ornaments in bright colors, come much cheaper. A pair of vases 18 inches tall is marked \$18, and small flagons and cups can be had for \$3 for \$4 each. It is not alone in glass that Bohemia excels. Her porcelain is excellent, the delicacy, purity, and translucent quality of the smaller articles being remarkable. Nothing very difficult and costly is attempted. The best piece in the collection is a great flagon in *biscuit*, ornamented with white and gold reliefs. Under one of the jovial drinking scenes is this famous old German couplet:

Wer liebt nicht Wein, Weib, un Gesang,
Der bleibt ein Narr sein Leben lang.

Which turns itself into English almost word for word:

Who loves not woman, wine, and song,
Remains a fool his whole life long.

Who would expect porcelain from Hungary—a country not much further advanced in manufactures than our own Southern States? And yet here are some good reproductions of Chinese work and of mediæval European styles from Herend, an inconsiderable town in the land of the Magyars. The teapots and vases, surrounded with a sort of flowered network, and the plates with a wide border of the same peculiar open-work, are curiosities in their way. In connection with the glassware, I should have mentioned the really fine stained-glass win-

dows, with pictures of old heroic German Emperors, from Inspruck in Tyrol, and the mirrors with painted cupids that appear to have flown down in front of the glass to get a look at themselves.

There is material for an hour's study in the great black cases filled with meerschaums, but one gets out of patience to see how much artistic talent is devoted to the mere carving of pipes. The proper relation between ornament and use is lost sight of when a fine carving of Mazeppa chased by wolves, or a hunting scene with a dozen figures of men and animals admirably worked out is put upon a tobacco pipe. It may please a smoker's fancy to watch a pretty girl kissing a cupid turn into a mulatto day by day before his nose under the influence of the nicotine deposited in the tobacco receptacle in the *papiers* of her dress, but is it exactly appropriate? The variety of design displayed in the meerschaum work is surprising. Among the hundreds of pipes there are no two alike. The simpler forms, and especially those representing the heads of Arabs, Turks, and other Oriental types, seem to me the best. There is not much work in amber shown, but the beautiful chandelier made of the two varieties of the stone, clouded and clear, is so fine that one does not care to look for anything else.

Another Viennese specialty is work in Russia leather, which alone, or in combination with gilt and silver bronze, is made into a variety of beautiful articles. The black photograph albums, with paintings on porcelain set into their sides, are particularly attractive. Nowhere out of Paris are so many pretty things made in gilt and steel bronze as in Vienna, but Paris itself does not produce anything in this line as beautiful and as purely artistic as some of the best Viennese work, such as is shown in the salvers and caskets displayed in the principal case devoted to this class of goods. The well-known garnet jewelry of Prague—everywhere a favorite for its beauty and comparative cheapness—is not largely represented, but nearly all the best forms may be seen. Hungary sends some wonderfully fine specimens of that most delicate of all precious stones, the fire-opal, which is found in its perfection in the Carpathian Mountains. A single mass as large as a man's fist, and polished only on one side to show the brilliancy of the iridescent colors, is valued at \$25,000.

Stopping for a moment to admire the delicate laces from the Erzgebirge, the Viennese silks and shawls, the chromos and the beautiful carved wood pictures from the Tyrol, we come at last into a region where beauty is subordinate to use. Here a chief group is that of the bent-wood furniture which has been recently introduced in New-York and Chicago. The chairs and sofas with cane seats and frames of bent wood are graceful, light, and strong. The curving of the wood appears to have suggested the rocking-chair nowhere else known on the continent, and the manufacturers have produced some articles of this sort, but as the rockers curve around in a great circle in front, the incautious sitter is in constant danger of pitching forward and falling on his nose. The sheet-iron bedsteads, painted in imi-

tation of wood and handsomely decorated with flower pictures, are exceedingly pretty, and are suggestive of coolness and cleanliness. They cost from \$25 to \$50, and are all for single beds. In Austria as in Germany none except peasants sleep two in a bed. Of the pretty white pottery stoves that are everywhere used for warming rooms in Austria there is only one sample, and that not a good one. If these stoves were once introduced here, they would soon become popular, their neatness and the mild, even heat they afford making them much preferable to iron stoves for small rooms.

A multitude of articles, interesting chiefly as affording an instructive insight into the active industrial life of the Austrian Empire, next claim attention—woolen and cotton cloth, ready-made clothing and uniforms, chemicals, soaps, and perfumes, an imposing tablet of stearin and beeswax, musical instruments of brass and wood, buttons in endless variety (the chief item, by the way, in Austria's export trade to the United States), and a score or so of other things. Finally the group of education affords instructive material for an hour's research in the scientific instruments, the politico-economic charts prepared by the Chief Commissioner, Dr. Migerka, the case (of surpassing interest to anatomists) showing the structure of the human ear, and the large and rich collection of books, photographs, and drawings sent by the Austrian Society of Civil Engineers, and recently presented by them to the kindred American society.

Three of the best Vienna photographers have sent some admirable portraits and landscape views, which are hung in the photographic annex. The portraits are characterized by an agreeable softness of tone, combined with perfect distinctness. They afford an interesting study of Austrian physiognomy. A photographer in Oldenburg, a little city in Hungary, sends a number of capital character scenes from Hungarian life. One represents the arrest of a young peasant, who is innocently accused of some crime, and the terror and grief of his parents and brothers and sisters. In the next picture the real criminal is discovered, and there is of course general rejoicing.

In Machinery Hall the Austrian display consists of a petroleum engine and a few unimportant exhibits. The agricultural display is much larger and better, comprising specimens of timber, grains, leather, dried and sugared fruits, wines, beer, wool, &c.

As a whole, the Austro-Hungarian contribution to the Exhibition must be pronounced highly creditable, considering the distance of the country from our shores and the small amount of reciprocal commercial intercourse and travel. In size it ranks after the departments of England, France, and Germany. It does not fulfill the hopes formed, or the promises made in Vienna at the time of the Exhibition of 1873; but it compares favorably with the exhibit of most other European nations. The contrast between the Austrian goods and those of Germany is quite noticeable, and bears out the impression received by all observing tourists who visit the country, namely, that Austria is not German in anything except lan-

guage. In the German section cheap and useful articles predominate, while in the Austrian articles of luxury and fancy take lead, and there is a rivalry with the French in the prolific inventive faculty in matters of ornament.

HOLLAND.

AN HONEST EXHIBIT OF THE COUNTRY'S INDUSTRIES
—ABSENCE OF ANY MERCENARY SPIRIT.

PHILADELPHIA, June 22.—Perhaps the most orderly, systematic, and thoroughly representative display in the Main Building is made by the Netherlands. It differs widely from nearly all the other national departments in the almost entire absence of the shopkeeping spirit. The most hasty glance shows the visitor that here is not merely a collection of merchantable wares, sent to the Fair for the profit of manufacturers, but the result of an intelligent effort on the part of the Dutch Government to give our people the opportunity of studying the public works, educational systems, manufacturing industries, agricultural products, and colonial resources of the sturdy people that inhabit the "hollow-land" lying upon the North Sea. Formed on this idea the exhibit of the Netherlands is a valuable museum of information about the country rather than a bazaar of attractive and salable goods. Entering the inclosure under rich maroon hangings, pendant from graceful arches of light woodwork, we come first to a great seven-winged screen hung with maps, diagrams, and pictures, illustrating the wonderful system of public works by which the ocean is kept from inundating a large portion of the country, and a circulation is maintained in the waters of the canals and streams below the sea level. The engineering works employed in draining Haarlem Lake, and by which it is proposed to convert into fertile farms the far greater expanse of the Zuyder Zee, are shown, and there is an admirable series of *papier maché* casts, representing the surface of a portion of Holland with its dikes, rivers, canals, and bridges. The great project for pumping the Zuyder Zee out into the ocean is referred to in this translation on the model of the great Amsterdam Canal of an ancient Dutch rhyme:

Haarlem Lake is drained
And drained is the Y;
If Peace is maintained
Zuyder Zee gets dry.

An interesting exhibit is made by the artisans' school at Rotterdam of the work of its pupils in stone-cutting, modeling in plaster, wood-carving, and so forth, and the public school system of the Netherlands is set forth in a very thorough and creditable manner. This branch of the exhibit will be more thoroughly considered in a subsequent letter. The instructive models of houses, grounds, views of interiors, and plans of public buildings give a more correct idea of the domestic life of the Dutch than could be obtained from reading volumes of description; and the model dwellings for workmen could be studied with profit by architects, builders, and philanthropists interested in ameliorating the condition of the laboring classes of our great cities.

The publishers of Amsterdam, Utrecht, Rotterdam

and the Hague fill a little court with books in Dutch and English, not under lock and key, like those in the American department, but ready for the hand and eye of whoever chooses to examine them. There is also a collection of music in sheets and bound volumes. The display of manufactured articles is necessarily somewhat limited, for Holland is not a manufacturing country like Belgium, and makes only a few staple articles for domestic use. The woolen fabrics form much the most prominent group, and include all the usual varieties of men's wear, and blankets that for lightness, thickness, and softness of texture, are nowhere equaled. Some are half an inch thick, and are soft as eider down. They cost from \$8 to \$18 each, and quantities of them have already been engaged by admiring housekeepers. There are also fine Smyrna carpets and rugs, made at Delft. These imitations of Turkish fabrics are, by the way, much handsomer and a great deal more durable than are the carpets exhibited by the Turks themselves. A special Holland industry in which a high degree of skill is shown is the manufacture of oil-cloths for table covers, wall panels, &c., in the closest imitation of a great variety of ornamental woods and marbles. The specimens of this work set in panels in large screens are almost universally mistaken by visitors for samples of the stones and woods they imitate. Other articles exhibited which show creditable workmanship are clay pipes, leather belting, Cologne water, reproductions of old Delft tiles, and a few specimens of glassware. Chemicals and dye-stuffs are also shown. Among the few Dutch manufactures that can properly be ranked as art industries is that of lacquered work on wood, which has evidently been borrowed from the Japanese, with whom for a long time the Netherlands was the only nation that had any commercial intercourse. The cabinets and caskets in this style by no means equal those exhibited by the Japanese themselves. There is, however, a large screen of surpassing beauty, that was at the Vienna Exhibition, ornamented with four scenes from Goethe's *Faust*, and four from different poems by Schiller. This is the one unapproachable and perfect gem of the Holland exhibit.

On going into the Colonial Court you step at once from Europe into furthest Asia, and find yourself surrounded with the grains, spices, woods, arms, weapons, embroideries, filigree work, and gorgeous woven stuffs of the East Indies. In the center of the court stands a brilliant Indian pagoda, filled with the choicest specimens of the products and native industries of the Dutch possessions in the East, and an exceedingly fine collection of East Indian weapons exhibited by the King of the Netherlands, and selected by his order from the palace of Het Lov and from the Royal Cabinet of Curiosities at the Hague.

In Agricultural Hall the Dutch make a compact and well-ordered display, containing two very interesting collective exhibits made by agricultural societies, the finest samples of fruits and vegetables put up in glass jars to be found in the Exhibition,

fishing nets and models of fishing craft, a marvelous variety of the cordials and fancy liquors for which Amsterdam is famous, and numerous piles of the hard, round, little red or tin-foil covered cheeses of Edam.

RUSSIA.

NATIONAL FORMS AND ORNAMENTATION—EXHIBIT OF A TECHNICAL SCHOOL—BEAUTIFUL SILVERWARE—ORNAMENTAL STONES—COSTLY FURS—THE GOVERNMENT EXHIBIT.

PHILADELPHIA, June 29.—“The motive of our Government in taking part in your exhibition is political and not commercial,” said a member of the Russian Commission to-day; “it desired to manifest its friendship for the United States by making at Philadelphia a good representation of its arts and industries.” In this statement lies the explanation of the Russian section, which illustrates better than any other the less practiced and better of the two methods of representing a country at an international fair, namely, the careful selection and systematic arrangement in due proportion, under government supervision, of such articles as show a nation's best achievements in all important branches of human industry. In contradistinction to this is the voluntary system, exemplified, for instance, in the departments of the United States and England. It consists simply in installing such articles as may be contributed from motives of business or patriotism, giving preference to first applicants and rejecting nothing that is passably creditable, unless it be for want of space.

The Russian Government was very slow in making up its mind to participate in the Centennial Exhibition, but when it decided it acted with great energy and liberality. A commission, appointed at the eleventh hour, made a list of the articles wanted, and of the manufacturers that produced the best of each kind, who were induced to contribute by the Government undertaking the payment of freight and insurance to and from Philadelphia, and of all expenses of installation, including the purchase of show-cases. In a remarkably short space of time a thoroughly good, and in some respects exceedingly brilliant, exhibit was organized. It did not arrive until after the opening of the Fair, and its arrangement was then delayed by an accident to the steamer on which the cases were shipped. The section was opened to the public about the middle of June. No part of the Exhibition will more richly repay careful study. One could much better afford to neglect the English or the French display than to dismiss this with a hasty glance, because every person in America with an average amount of culture knows a good deal of the arts and manufactures of England and France and of the national life of those countries as it reveals itself in such material creations; but Russia has been to Americans almost a sealed book. For the first time they have now an opportunity of learning something definite with regard to her recent achievements in industry, and of examining the results of the protective policy which has developed from native germs, or transplanted

from other countries almost all branches of manufactures that supply the complex wants of the highest modern civilization. In the admirable fabrics of cloth, leather, iron, steel, silver, bronze, and gutta percha which she displays, the advocate of a protective tariff will find a new and strong argument in support of his theories.

To the student of industrial art, the Russian section is a fruitful field, presenting in a striking manner the results of the revived taste for national forms and ornamentation as expressed in early Muscovite art and architecture that now prevails to a very marked extent among all classes of Russian society. This taste is a recent growth; but stimulated by an intense patriotism and by the most exalted ideas of the future of the Slavic race, it is almost a mania, and bids fair to greatly modify if not entirely replace the taste for classic, renaissance, and modern European art. How rapid this singular growth has been may be judged from the fact that there were no evidences of its existence at the Exhibition of 1851. The Marquis Delaborde, in his report on the fine arts display at that Exhibition, read a lecture to Russia on her failure to develop her national instincts in art, and her contentment with a position "at the tail of the schools and factories of Europe." This French critic first pointed out the fruitful sources of artistic originality existing in the curious architecture of the Kremlin, the unique silver work of Moscow and its sumptuous cloths, and even in the common utensils of the peasants. Soon after there occurred in Russia a complete reaction in favor of native art ideas, and the Government lent its aid to purify and develop them, so that at the Exhibition of 1867 Western Europe was astonished by a rich display of products of Russian art industry, all bearing a decided stamp of originality. The same classes of objects exhibited at Paris at that time may be seen here, and the effect of a still wider development of the national taste is observable not only in silverware, jewelry, brocades, and costly silks, but also in cutlery, various kinds of work in metals, in pottery, and glass, and even in the cheapest cotton prints. Everywhere there is manifested a pronounced tendency to independent invention and a conscientious study of the sources of national art. The guide and inspiration of this new movement exists in the Stroganoff School of Technical Design at Moscow, founded in 1864. The first thing the visitor should do on entering the Russian section is to examine the exhibit made by this school in two alcoves next the wall on the south side of the building. Here he will see how the pupils, after the usual course of study in the elements of drawing and modeling, have their minds saturated with Muscovite art and architectural decorations as a final preparation for their work. The purpose of the school is to furnish the national manufactories with skillful designers and artists in ornamentation, penetrated with admiration of the revived art of the thirteenth, fourteenth, fifteenth, and sixteenth centuries, and at the same time to aid in the development of original creations. In plaster casts from old buildings, drawings, and engravings,

and in old religious pictures, are shown the original forms of ornamentation which the pupils work out in furniture, silverware, jewelry, wall papers, and patterns for textile fabrics.

Of the Russian exhibit as a whole it is not extravagant praise to say that it is superb. The neighboring section of Germany is completely eclipsed by it. Indeed, there is no national department in the Main Building that makes a stronger impression of richness and beauty. I have already spoken in a previous letter of the brilliant display of silverware made by the Moscow firms of Sazikoff and Ovtchinikoff. There is no finer *repoussé* work in the whole Fair, and the enameled work is without a rival. The forms of the objects and the styles of ornamentation are wholly original. Almost the only object showing Western ideas is a semicircular plaque in silver of the "Last Supper" and its smaller reproductions. Subjects from Russian life and history form the staples of the bronzes and the silver. On one of the large silver beakers is represented the entry of Peter the Great into Moscow, and on another the dance of peasants. A Russian sledge, drawn by three horses, is a favorite subject, and hunting and military scenes abound. The square-faced, heavy-jawed, broad-shouldered Russian peasant is not a type that artists would delight in, but the Moscow silversmiths appear to have felt in duty bound to make the best of him. He and the equally unprepossessing women of the race, in their ugly costumes, are served out in every possible variety of ornamental work. The enameled work in silver and gold is exceedingly brilliant, and displays remarkably fine workmanship. The styles are unique, and recall Asiatic art far more than anything European. Very curious effects are produced by imitations in white silver of the Russian napkin with its colored border, which seems to have a peculiar national significance. It is worked out in such a faithfully minute manner that the threads can almost be counted. These napkins sometimes form the covers of punch-bowls, and sometimes appear as if carelessly spread across fruit dishes and salvers. So admirable is their workmanship that they might easily be mistaken for real fabrics of linen. A peculiar Russian industry which is abundantly and very beautifully displayed, is the manufacture of a variety of ornamental stones found in the Ural Mountains. Malachite, jasper, and lapis lazuli are the materials mostly used, but there are also articles made of stones quite unfamiliar in this country, such as Labrador, rhodonite, and nephrite. Very lovely are the bunches of fruits carved out of various stones, the natural colors of the stone reproducing almost exactly the colors of the fruits. In this way raspberries, plums, currants, green-gages, and grapes are made on paper-weights, or set in the front of mantels. A large mantel of malachite, with a mosaic front of perhaps a score of different stones, and ornaments of this peculiar fruit-work, is valued at \$6,500. Malachite vases about 3½ feet high, each cut out of a single block of stone, cost \$4,500 a pair; and a smaller size, about 18 inches high, is valued at \$650. The malachite and lapis lazuli tables range in price from \$100 to

\$1,000. There is a great variety of small ornaments in malachite, jasper, and lapis lazuli at very moderate prices. The work in these stones, as a rule, follows French models, and does not appear to have been much affected by the recent rage for Muscovite art. The fabrics of cloth of gold and silver, mingled with silk, and sometimes richly embroidered in colors, recall the tales of Oriental magnificence. The dress silks, woolen goods, cottons and the linen fabrics rival those of France and England. There is a unique and very attractive collection of garments and table-spreads from Circassia, richly embroidered in silk and in gold and silver threads. The display of furs is much the finest to be found in the Fair. Some idea of the beauty of these articles may be formed from their cost. A little bunch of sable skins of the finest quality is valued at \$2,400; a fur cloak made of the backs of sable skins is ticketed \$2,700, and a ladies' cape of black fox fur is marked \$1,400. Some exquisitely lovely gold jewelry in the form of flowers is remarkable for the delicate shadings of color, varying from the lightest straw yellow to a brownish red, produced by the application of different degrees of heat to the plates of gold. A pavilion of very graceful form made of ebony is devoted to an exhibit of india-rubber goods—an American industry naturalized recently in Russia which has met with remarkable success, the product of the single factory making the exhibit amounting to \$5,000,000 a year. Some specimens of work in carved woods come from an industrial school in St. Petersburg that is under Government patronage. The most noticeable object is a peasant's chair in black walnut, across the seat of which lies an imitation of a trowel made of some white wood. The handles are formed of hatchets. At the back of the seat lie a pair of mittens, admirably carved, and in the frame is the characteristic motto in this Russian language: "Go slow and you will go far," which expresses in a single sentence the spirit of the Slavic race.

The direct contributions of the Russian Government to the Fair are an admirable collection of minerals and fossils, and an exhibit made by the Pedagogic Museum of St. Petersburg, an institution under the immediate direction of the Ministry of War. The object of the Museum is to encourage the introduction of good school books and apparatus, and generally to promote the diffusion of public education. The collection shows that object-teaching is made an important part of primary education in Russia, the illustrations of natural history by pictures and models, and of geography and ethnology, being complete and systematic. The school furniture shown presents nothing that American manufacturers need study. Other notable exhibits that deserve more than the mere mention that can be accorded them here are those of pianos, scientific instruments, amber, soap, chemicals, fans, umbrellas, and ladies' cloaks of velvet, lined with the white fur of the Thibet goat, or trimmed with sable. Among the jewelers' and goldsmiths' work I should have mentioned an altar ornament of gold embroidery and precious stones on a velvet background.

Under an architectural design hung with miniatures of the twenty saintly namesakes of the Czars, from Peter the Great to Alexander II., stands a figure in armor, about a foot high, worked out in gold against the purple velvet background. The face is painted and surrounded with a raised gloria of diamonds. One hand rests upon a table, on which is a crown and a scepter of diamonds, rubies, and emeralds. The figure is Saint Alexander Newsky. If anybody wants to buy this curious specimen of religious art it can be had for 5,000 roubles—or about \$3,500. A head of Christ beautifully painted on a representation in silver of a handkerchief lying upon a gold embroidered background, is marked 1,000 roubles. The Russian exhibit in Agricultural Hall is comparatively large, and well represents the farming industry of the Empire as far as its products are concerned, and also the industries engaged in making the various preparations of food. There are grains of all kinds in sacks with glass covers and in sheaves, flax, wool, and dried fruits, canned goods, cakes, candies, biscuit, wines, liquors, cigars and cigarettes, and so on through a long catalogue. The agricultural implements consist only of a mower, a thrasher, and two or three fanning mills. A number of exhibits, for which room could not be found in the Main Building, where they belonged under the classification, are placed here—such, for instance, as a large case of sheepskin cloaks and jackets of the kind worn by the peasantry, an assortment of queer reddish-brown white-lined pottery, which seems to be both excellent and cheap, and a number of very showy trunks, which appear at first glance to be bound with bands of silver, but the bright metal, on close inspection, turns out to be nothing but tin.

It is a matter for surprise to find Russia among the few foreign countries represented in that little frequented but deserving locality, the Shoe and Leather Building. She makes there an admirable exhibit of sole and upper leathers, kid, boots, shoes, trunks, valises, and gloves, showing care in tanning and skill in manufacturing. Some fanciful styles of boots in scarlet and green leather, embroidered in silk and gold thread, are no doubt intended for sale to some of the Oriental tribes under Muscovite sway—the Circassians, perhaps.

Russia neglects no department of the Exhibition. In the carriage annex she shows a handsome caleche, a well-built open phaeton, with seat behind for a "tiger," an elegant little sleigh of very different form from any used in this country, and a singular vehicle whose uses it is hard to guess. It may be described as a velvet-covered bench, about three feet long, mounted upon springs attached to a running gear of four small wheels and a pair of stout thills. The rider sits astride of the seat with his feet on rests above the front axle. Harness, studded with scales and buttons of silvered metal, black saddles of strange forms, and carriage springs tested by a powerful screw-lever press, are also exhibited.

In the Photograph Hall, the photographers of Moscow and St. Petersburg show that they have kept pace with their brethren of Paris and New-York.

In Machinery Hall, the Russian Government makes an imposing display, with its siege and field guns, its caisson and ambulance, its muskets, shot and shell, and its painted wooden horses (very natural, by the way), harnessed to transport a howitzer battery. The largest cannon is an 8-inch rifle with six iron reinforces shrunk upon it, and a breech-loading arrangement somewhat similar to Krupp's. The bore extends clear through the gun, and is cut off behind the reinforces by a breech-block that is drawn to one side by a screw to admit the charge. This system is in use on all the smaller guns, five in number—a 6-inch rifle, two large brass howitzers, a small naval steel gun, and a brass field piece. Some effective breech-loading system for large and small ordnance is now employed in every European country, but our Government, which was behind all the rest of the world in adopting breech-loading muskets, has as yet made almost no progress in the direction of discarding its old muzzle-loading Rodmans Dahlgrens, and Parrotts.

Apart from the Government exhibit the best features of the display in this hall are the show of products of the great iron works owned by Prince Demidoff, and the very remarkable collection of the tools, machines, and patterns used and made in the Imperial School of Mechanic Arts at St. Petersburg—a collection that excites the admiration of both teachers and mechanics. It shows that in establishing and sustaining an institution where the arts of working in wood, stone, and metals are thoroughly taught by theory and practice, Russia is in advance of the world.

SWEDEN.

THE BEST EXHIBIT IN PROPORTION TO THE SIZE OF THE COUNTRY—IRON AND STEEL PRODUCTS—FURS AND WOOLENS.

PHILADELPHIA, May 30.—I am inclined to think that, in proportion to its size, Sweden has made the best exhibit in the Main Building of any country. In extent it almost equals that of Germany, and in orderly and effective arrangement it is nowhere surpassed. An unusual degree of interest attaches to it from the fact that very little is known of Swedish goods in this country, and from the remarkable excellence of nearly all the articles displayed. One enters the department knowing very little of the Swedish industries, taste, and national life, and after an hour or two spent there, comes out surprised at the evidences of high culture, of proficiency in the arts and sciences, and of varied industrial activity which he has seen, and he really gains—so rapid is the education that comes through the eye—more information about the chief Scandinavian kingdom than he could get in weeks from reading books. The chances are that his former impression of the country was that it was an out-of-the-way sort of a place, left behind in a corner in the race for pre-eminence among other greater European nations. However this may have been, he will be sure to come away with the conviction that Sweden is an exceedingly intelligent, progressive, active, and

self-contained little nation, abreast in nearly all respects with the most advanced countries of the world.

Much of the excellence of the Swedish display is due to the efforts of the chief commissioner, Mr. C. Juhlin Dannfelt, who has had experience at nearly all previous exhibitions, and had an earnest desire to have his country outdo all her former efforts. Much the most striking and largest group is that of the iron and steel. Nowhere in the whole Exhibition—not even in the United States section—is there such an extensive, well arranged, and well classified show of these metals. Twenty-eight exhibitors contribute, and among them are the two largest establishments in the kingdom, those of the Motola and of Sandwik, which were not represented at any of the World's Fairs in Europe. Huge columns and pyramids of iron and steel bars and pipes, great screens towering nearly to the roof of the building, upon which are arranged tires, bars, ingots, &c. Collections of iron and pig metal, cases of nails, a reindeer made of spikes, huge railway axles, maps of the mining districts, and drawings of furnaces and machinery, are among the many things seen in this group. The arrangement of the articles is such as to produce the best possible impression of the magnitude and excellence of this leading Swedish industry.

To go from the most solid and substantial to the most delicate and fragile of articles is a sudden transition; but, as the porcelain is the second group in importance, it demands notice after the metals. Here is a rich field for the collector of rare objects in china. So little known is the Swedish porcelain in this country that there is scarcely an article exhibited, excepting, of course, the most common table ware, that would not be regarded as a desirable addition to any collection of ceramics. There are excellent reproductions of the old Palissy ware, not as good, perhaps, as the works of Barbizet in the French section, the pieces being of no great size and the figures lacking somewhat in boldness and action, but nevertheless showing a high degree of artistic excellence. The Parian ware is also very fine, the work in vines and flowers being exquisitely delicate. There is a large vase in black and gold, from the handles of which hang heavy wreaths of flowers of Parian work, that is remarkably fine. The tea sets, with black ground and delicate vines and arabesques in white, are very pretty, as are the large white vases decorated with painted flowers.

Not so attractive but more unique is a peculiar kind of ware made of what appears to be repoussée silver, lined inside with porcelain. There is a pair of large vases of antique style, with a ground, partly red and partly overlaid with what appears to be tinfoil, ornamented with a band of white circles, in which is a series of scenes from the old Norse Saga. In the whole collection there is nothing more unique than these vases. The price marked on them is \$99, but whether it is for one or the pair is not stated. A great deal of the Swedish ware has black ground with ornaments in white or colors, but there is also much flower work upon white, in imitation of the

French porcelain of the seventeenth century, and some very good Japanese productions.

Perhaps the most striking object in the whole ceramic collection is a porcelain stove about 12 feet high, of a delicate blue, richly ornamented in white gold and a darker blue. Nothing but a colored photograph would give an idea of the elegance of this article. Its price is \$1,000. A pair of gigantic candelabra, in the same style beside it, cost \$900. There are other stoves of plainer style and workmanship that are cheap enough for men of moderate means to covet. In Sweden, however, porcelain and majolica stoves are in general use. Some are, I am told, as cheap as \$10, but of these there are no examples in the Exhibition.

A rich show of furs is one of the most attractive objects. The woolen cloths displayed are of as fine quality as those in the English department, and from the absence of shoddy are much superior to those shown by the Germans. There are some good plain silks and cotton goods, and a very handsome variety of wall paper and glassware that is as good in quality as the best made in this country. Coarse paper in rolls for use between the walls of houses to make them warmer in Winter, perfumery, kitchen furniture of polished brass, cutlery, tools, and hardware are among the many useful articles that show a high degree of skill in their manufacture, and are obviously of excellent quality. Some of the finest carpenter work to be found in the Exhibition is shown in the two garden pavilions exhibited by a Stockholm maker. Numerous cases of matches form a prominent feature. Sweden furnishes nearly all of Eastern Europe with matches, and they were the first, I believe, to make a peculiar kind of match, which can only be ignited upon the prepared surface of the box in which they are packed. A large collection of marbles and other building stone illustrates the richness of the country in these materials, and a large table of red porphyry, with mosaic work in many colored stones forming a center piece, shows the skill and taste of the Swedish artisans using them. The jewelry of Gottland, made of a bright marble which takes a very high polish, is attractive, and the huge section of a column of porphyry, and a taller and perfect column of gray granite, are noticeable objects.

In a little area detached from the main body of the Swedish Section, and between Japan and Denmark, across the main aisle, is the military display of the country, where are costumed figures showing the uniform and equipment of the Swedish army, a steel field-piece with its caisson, and complete collection of arms and accouterments, which are worthy of the careful study of military men. A map of the country, made by the engineer corps, is, I think, the best specimen of cartographic work to be found in the Exhibition. Any one who will give it the slightest examination and will compare with it the best maps we have in this country, will be forced to the conclusion that the map-making art with us is still in an exceedingly crude condition. Adjoining the military exhibit is that of the technical art schools of Sweden. These schools are established by

the Government in the cities and large towns, and are carried on in the evenings and on Sunday. The pupils are mainly young men and young women from the industrial classes. They appear to have attained a high degree of efficiency in mechanical architectural landscape and other styles of drawing, in modeling in plaster and in making models of machines. A similar exhibit, and the only one to be compared to this in excellence, will be found in the Massachusetts Educational Department. The same idea seems to lie at the foundation of both systems of education.

Returning now to the main body of the Swedish section, and passing numerous articles, one comes at last to what attracts the first notice of visitors, and that is the admirable groups of costumed figures illustrating peasant life. They are models in plaster, the faces and hands are painted, so that they are exceedingly lifelike. The costumes have all been actually in use by peasants, having been purchased directly from the wearers. The artist who made the figures is Prof. Lödermann of Stockholm, a sculptor of established reputation. Such great care is taken to secure absolute correctness in details that, when the hand of one of the figures was broken in transit, it was supplied by a cast taken from the hand of a Swedish girl in the employ of the Commission here. Most of the groups were made up from paintings. The expressions of the countenances and the attitude of the figures are remarkably natural. One of the groups represents a hunter and his family gathered in front of a dying elk that has just been shot. The face of the hunter expresses self-satisfied pleasure at the success of the chase, as does that of his son, but the two women obviously sympathize with the dying beast, and the little girl hides her face in terror in her mother's apron. Another admirable group is that of a Laplander in his sledge, drawn by a reindeer, who stops to chat with a fur-clad woman carrying a baby slung to her neck in a sort of trough. I cannot mention in detail all these groups, and will only call attention, in conclusion, to that of the dead child and one representing the intercession of the wife of an old clockmaker in behalf of the suit of a stalwart young fellow who has come to ask the hand of the blushing daughter.

PORTUGAL.

A COMPREHENSIVE EXHIBIT THAT DESERVES CAREFUL STUDY—FABRICS—CERAMICS—WINES.

PHILADELPHIA, July 8.—Early in July the Portuguese opened their sections in both the Main Building and Agricultural Hall. In the former building they have an unfortunate situation, hidden behind the barbaric splendors of the Turkish Section and only approached by a side aisle. To Americans the articles they display are very interesting, conveying as it were by a series of object lessons a great deal of information about a country of whose arts, industries, and natural products comparatively little is known by the American people. Our imports from Portugal consist chiefly of wine, oil, and cork, and very few tourists who go to Europe ever make their way into the little kingdom to learn what else it produces.

Indeed it is doubtful if one American in a thousand, if suddenly asked what are the principal products of Portugal, could name with confidence anything besides port—the warm, generous wine loved in all northern lands—that has spread the name of the pretty town at the mouth of the Douro throughout the world. Perhaps the Portuguese Commissioners were aware of the want of the knowledge here concerning their country, and designed that their exhibit should supply the lack. It would seem so, for these compact and crowded areas in the two halls contain volumes of information about the appearance, habits, tastes, and industries of the people of Portugal. The variety of manufactures shown is much larger than I expected to see. It includes a wide range of textile fabrics—silks and brocades, coarse white cottons and prints, good cassimeres, broadcloths, and woolen shawls, boots, shoes, and other leather goods, felt and silk hats, glassware, pottery, and porcelain, cutlery, tools, nails, wire, tinware, and much other work in metals; buttons, paper, books, silverware, jewelry, baskets, &c. The most unique class of exhibits is the pottery. There is much peculiar ware of red terra cotta, marked with outlines of ferns and other leaves and studded with round knobs in which are stuck little bits of white marble. The shapes are nearly all novel. The water jars have no opening at the top, but are provided with two spouts—a large one with a funnel-shaped mouth for pouring the fluid in and a small one, like a teapot nozzle, for turning it out. This peculiar form, which is no doubt very ancient, is also found in white ware. Majolica and even imitations of Palissy ware are shown, but the color and workmanship are inferior. There is some good porcelain ornamented with floral devices, and an abundance of white pottery covered with pictures in blue and green, exactly like the English ware in common use in this country 20 or 30 years ago. Indeed many of these plates look as if they might have come from the cupboard of some thrifty New-England housewife, who had taken good care of the dishes bequeathed her by her mother or grandmother. The little colored clay figures of peasants are very well executed, and are said to be faithful copies of the costumes and faces of the Portuguese country people. Wherever woolen clothes are represented on the figures a frizzy substance has been applied which gives the appearance of cloth to the coats and trousers of the men and the jackets and stiff petticoats of the women, and of felt to the broad-brimmed black hats of both sexes. Some larger figures, also in painted pottery, representing a smuggler, a fishwoman and a beggar, are admirably lifelike, and a group of two men and a woman trying to hold a big hog for the purpose of slaughtering him, as would appear from the broken basin and knife on the ground, is broadly humorous. One man holds on with might and main to the animal's tail, the other grasps an ear, and the woman who has attempted to stay his bold career by getting astride of his back falls headlong to the ground. The ceramic collectors have already discovered the treasures of oddities here, and many of the best articles are marked "sold."

The photographers of Lisbon, Oporto, and several of the smaller cities send groups of portraits and views of landscapes and of churches, convents, palaces, and castles in handsome frames, and deserve praise not only for showing us that they are not behind the rest of the world in developing their art, but for giving us an opportunity to study Portuguese facial types and the architectural beauties of the country. Numerous pictures of the King, Dom Luiz I., give that monarch a face somewhat resembling that of Murat Halstead. Remarkably beautiful specimens of wood carving for interior architectural decoration are exhibited by the Commercial Association of Oporto. There is nothing to compare with them in the whole air. The delicacy of the open-work designs is so great that it would seem impossible to carve them in a material so easily broken as wood. All the objects are copies of ornaments used in the new hall of the association.

Filigree work in gold and silver is shown that appears to equal that displayed in the Norwegian section. It is rather singular that Northern and Southern nations should alike excel in this dainty art. A few pieces of artistic silverware are worth noticing, especially a chased ewer and basin and a tea set with repoussé flowers and foliage.

There remains, as deserving special mention among many objects that must be passed by unnoticed, the exhibit of the Royal Typographic Establishment of type, cuts, copper and steel plates, lithographs, books, and maps, the large collection (badly arranged) of minerals, marbles, and building-stones, the tall column hung with baskets. The cases of clothes and of boots and shoes, the pyramid of salt in glass jars, the display of natural mineral waters, the big case of serviceable tinware, the gold foil, the unique washstands of iron and marble, with their painted reservoirs, surmounted by mirrors, and the chairs of novel patterns, with iron frames and rattan seats and backs.

In the Portuguese section of Agricultural Hall one finds first wines, and then wines, and then more wines—case after case, with long rows of bottles arranged on shelves, each bottle (except those from Madeira) having a white and blue label with the name of the producer, his residence, the annual product of his vineyards, and the price of the wine at home. To Americans the prices appear ridiculously cheap, many bottles being marked as low as nine and even six cents a liter (a little more than a quart), and 25 and 30 cents appear exceptionally high rates. All question as to whether the future American will drink the juice of the grape would, I imagine, be promptly solved if such good, pure, red wine as Portugal exhibits could be bought here, as it can there, for from five to ten cents a bottle. When that time comes, if it ever does, the business of turning corn and rye into fiery spirits to craze men's brains will suffer a serious decline. The Madeira Islands send numerous specimens of wine and brandy, thus contradicting a report published some time ago that their vineyards had died out, and that the wine labeled Madeira was all false. In the way of food preparations, Portugal shows canned

fruits and vegetables, marmalades, jellies, preserved fruits, honey, cheeses in tins, sausages enveloped in tin foil, dried fish, canned lampreys, an abundance of flour preparations of the macaroni and vermicelli order, and crackers and fancy biscuits in marvelous variety. One firm exhibits 80 different kinds. Some of the little biscuits coated with sugar and studded with lots of fruit or broken kernels of savory nuts look very palatable. An excellent display of wheat, oats, Indian corn, and millet is made, and of beans there are many more varieties than are known to our farmers. The Latin races all make more use of the bean for food for man and for domestic animals than we do, and consequently give more attention to its culture.

There is still another section in Agricultural Hall belonging to Portugal, separated from the one I have been describing by the areas of France and England, and adjoining that of Italy. The uniform show-cases of varnished pine and the blue and white flags would indicate it well enough to one who had been examining the other exhibits of the country in the building without the great lettered banner hung overhead. Here are shown the products of those remnants of colonial empire that Portugal still retains in Africa and India—the Cape Verde Islands, Angola on the Congo coast, some settlements in Mozambique, and a few petty dependencies in India. Coffee, palm oil, vegetable fibers, sugars, drugs, nuts, and dried fruits of unfamiliar names and appearance, hard woods, cotton, and spices fill the shelves, and beside them are savage arms and implements from Africa, rude looms, drums of astonishing devices, carved gourds, two stalwart figures of chiefs carved in wood and clad in scant costume of cotton cloth and a profusion of tinsel finery—a little museum, in short, of African curiosities. The large, sprawling vegetable growth that is sure to excite the visitor's wonder is a dried plant of the *Victoria Regia* species.

Of the exhibit as a whole, I may say in conclusion that it is surprisingly good, and that its extent and variety and the evident conscientious pains taken in forming it are alike creditable to Portugal and complimentary to the United States. Considering the size of the country and its limited trade relations with the United States, I doubt if any nation deserves more praise for its share in the Exhibition.

SWITZERLAND.

WONDERS OF THE WATCH DEPARTMENT—WOOD CARVING—SCHOOL APPARATUS—LACE CURTAINS—EMBROIDERIES.

PHILADELPHIA, June 29.—At first the Swiss section disappoints by its small extent, but the visitor loses this feeling when he sees how much is crowded into a little space, and how compactly and systematically the articles are disposed. With few exceptions, all the important export industries of the Mountain Republic are represented. The section is arranged in a series of courts inclosed by show-cases of the severest plainness, the iron frames being painted a Quaker drab color, unrelieved by any ornament. Taking them in their order from the main

aisle toward the wall, these inclosures might be called, from the principal exhibits they respectively contain, the court of watches, of education, of embroideries, of textile fabrics, and of wood carvings and chemical products. In the latter stands a pretty little one-story chalet, used as an office for the Commission. In the last century watch-making has become the dominant industry in the French-speaking cantons of Switzerland. More than 200,000 watches, representing a value of over \$20,000,000, are produced annually. It is no wonder that this great manufacturing interest is given the most prominent position in the Swiss section. There are 45 exhibitors of watches, chronometers, and parts of watches, and their products embrace the whole range of pocket timepieces, from the cheapest silver cylinder escapement up to wonderfully elaborate pieces of mechanism that strike the hour and the minute and tell the day of the month and the phase of the moon. There are watches, too, so small that they are inserted in finger-rings and in charms for ladies' chains, and one miracle of minuteness is contained in a gold pen-holder. It has three dials of three-sixteenths of an inch diameter each, indicating the time, the day of the week, and the date of the month. The price is \$800. The watches set in gold rings are a little larger, and cost in the neighborhood of \$300. The most valuable watch shown is held at \$1,000, gold. It is an hour, quarter, and minute repeater; has an independent second hand, and a calendar of the day, month, and year, and shows the changes of the moon. Some very handsome engraved work in gold, of different colors, is displayed in watch cases, and the only painting mentioned in the Swiss catalogue is a copy of Greuze's "Morning" on the inner case of a watch; so it would seem that what little art there is in Switzerland is the servant of time. People who are curious about "movements," "jewels," and other features of the insides of watches, can study the subject *ad libitum* on the cases of "parts" exhibited. The jewels, by the way, are not glass, as many have no doubt imagined, but are real stones. For the cheapest grades of watches aqua marina is used, for better grades garnets, and rubies for the best.

Scientific instruments, for the making of which the Swiss are celebrated, electric clocks, and music-boxes are shown in the same court with the watches. The largest music-box is in the form of a sideboard, plays 36 tunes, and costs \$2,000. A smaller one, playing only eight tunes, but combining with the ordinary music-box machinery a reed-organ, a drum, and a chime of bells, is also valued at \$2,000. A chalet of carved oak, containing a clock, a music-box, and a singing bird, is a pretty novelty.

The group of education is especially interesting. With those of engineering and architecture it occupies the largest of the series of courts. Every canton in the Confederation is represented. We see here school-books of all kinds, a full array of articles used in the Froebel system of object teaching—collections of minerals, plants, insects, pieces of the skins of animals, geometrical figures, diagrams, and

a great variety of other objects designed to lead the child to the study of nature—plain and relief maps, philosophical apparatus, plans of school-houses, specimens of drawings and modeling executed by pupils in the public schools, &c. Every canton establishes its own system of education, but it is evident that there exists a substantial uniformity among them. In the group of engineering, material for many days of study is furnished by the drawings, photographs, and volumes of description of the system of intercommunication which has overcome the great obstacles presented by nature in the Alpine ranges, and covered the country with a network of railways and of the best turnpikes in Europe. The cartographic art, which in Switzerland, as in France and Germany, has been brought to a degree of perfection unknown in this country, is represented by an admirable collection of maps, large and small—some so elaborate in details as to show every depression and elevation in the surface of the country, and every chalet and foot-path.

The third court contains the lace curtains and the embroideries from the Cantons of Appenzell and St. Gallen—very beautiful work, especially the fern-pattern curtains, which at a little distance remind one of nothing so much as of delicate frosting on glass. The raised patterns, produced by building up the figures stitch on stitch until they stand out in bold relief, are also exceedingly attractive, and the embroideries upon white goods, and upon silks, woolens, and velvets are of an elegance that leaves nothing to be desired. Some of the work is done by hand and some by machinery; but so perfect are the machines now in use that it is almost impossible to distinguish one kind of work from the other. Evidently the slow and laborious process of hand-embroidery will soon be a thing of the past, like hand-weaving and hand-knitting. Not the least admirable peculiarity of the curtains is their cheapness. Handsome pairs are marked \$15, \$18, \$20, and \$25, but the would-be purchaser is a little disappointed to find that the duty must be added. The foreign exhibitors understand very well how to make their prices an argument against our tariff. You find an article that pleases you, and ask the price. It is perhaps \$10. "How cheap!" you exclaim. "Yes, very cheap," answers the exhibitor, "but your Government will make you pay \$5 for the privilege of buying it—the duty is 50 per cent."

In the fourth court are the silks of Zurich—handsome colors and good fabrics, but not of as fine finish as the Lyons goods—the straw goods, the braids of mixed straw and silk, paper and strips of metallic foil, used for hats and for fancy boxes, and the horsehair braids that go to Paris to be made up into hats. Here, too, are the silk bolting-cloths—a Swiss specialty that is considered a great triumph of the weaver's art—coarse, cheap cotton fabrics, of the color known as Turkey red, abound. They have little merit besides cheapness, and the market for them is almost exclusively in Turkey, Arabia, and the North African countries.

Penetrating into the last court we come first to the carved wood work from the Bermese Oberland—

specimens of which are pretty sure to fill a good deal of space in the trunks of American tourists returning from Switzerland. All these pretty articles—chalets, clocks, chess-men, boxes, and mantel ornaments, are cut out by hand in the cottages of the peasants high up among the Alps, in the Winter season, when they can do no out-door work. Yew, linden, walnut, maple, pear, chestnut, cherry, and oak are the woods used. The art is handed down from generation to generation, and the children begin while quite young to help their parents in the simpler kinds of carving. The best specimen in the collection is a book-holder in white maple, with Alpine roses and edelweiss, carved in the closest imitation of nature. Surrounding the chalet at the extreme rear of the section are shelves where condensed milk, chocolate, aniline dyes, and fancy liquors mingle curiously with photographs. There are also a few breech-loading guns of the regulation pattern used in the Swiss army—a manifest adaptation of the American inventions of Winchester and Henry.

JAPAN.

A RICH, QUIANT SHOW OF VASES, PORCELAIN
LACQUER WARE, AND BRIC-A-BRAC.

PHILADELPHIA, May 26.—It is the delight of lovers of the curious and the bizarre, this Japanese section, but it is at the same time the despair of the newspaper writer, who is at a loss to know how to convey to his readers any adequate conception of the marvels of skill and ingenuity that meet him at every step. Here at the outset, as he turns from the main aisle to begin his explorations, he comes upon the wonderful bronze vases. They are of such elaborate and intricate work, so abounding in the drolliest conceits and the most grotesque shapes of birds, beasts, and human beings, mingled with strikingly faithful reproductions of nature's forms, that no description of them is possible without the aid of engraving or photographs. The work could not be reproduced anywhere else in the world. To make a copy of one of the smallest of the objects in the collection would be beyond the skill of the best French artisans. It is of two kinds—one, the cheaper, being cast, and the other worked out with cutting and polishing instruments, and with a patience and skill that pass understanding. The Japanese gentleman who looks after the collection, and who is a manufacturer in Hizen, estimates the work on one of the large vases to be equivalent to 2,250 days' steady labor of one man. When this fact is understood, the price asked for it—\$2,000—does not seem extravagant. The ground color of the finer vases is a dark steel, and a marked peculiarity is the use of gilt and silver bronze for inlaying—sometimes on flat surfaces for delicate tracery, and sometimes in high relief for figures of birds and animals, or for the costumes of men and women, whose heads and arms are worked out in the steel bronze. There is no end to the variety of decorative work put upon the vases. The grotesque, for which the Japanese have such a remarkable fancy, predominates, and shows itself

not only in the dragons and other uncouth creatures unknown to natural history, but in the funniest imaginable caricatures of official and domestic life. On one of the largest pieces there is a platform just above the base surrounded by a rail fence, and upon it dance a procession of women, each carrying a gold or silver rose about twice as large as her head. Above on the body of the vase, are a number of scenes in which foxes in men's clothes figure in comic attitudes, and above these, on panels, are low reliefs that appear to represent the reception of petitions by dignitaries. Dragons form the handles. The minor ornamentation could not be described in a column. The handles of another large vase are formed by flocks of birds, instinct with motion, that appear to be swooping down to alight on the mass of rocks at the base, heedless of the ugly dragon just emerging from them.

The Secretary of the Japanese Commission, a young gentleman educated at Yale College, who kindly accompanied me yesterday in a tour through this wonderful museum as guide and interpreter, says that the art of making these bronzes is an old one, dating back many centuries, and that the manufacture is carried on in not fewer than 16 places in the empire. The prices of the articles in the finer kind of work exhibited range from \$200 for a pair of small vases about 18 inches high to \$2,500 for a single large piece. The bronzes may be divided primarily into two kinds—one in which the designs are all formed in the mold in which the metal is run, and the other in which they are to a greater or less extent worked out with the chisel. In some specimens of the latter kind the whole pattern is cut out from a plain surface. The inlaid work is produced in two ways—by hollowing out the design and filling it with the ornamenting metal, and by merely roughing the surface with a file and hammering the silver or gold on. Perhaps the most wonderful metal work is the so-called Mokn-me, which presents a damask pattern composed of many colored metals, chiefly silver, red copper, and a peculiar dark-blue alloy. It is made by overlaying and soldering together thin plates of the various metals, and then hammering, kneading, resoldering, filling up hollows with new layers, and finally beating the mass out into a sheet.

Only less beautiful than these exquisite bronzes is the display of porcelain—another ancient Japanese art that was brought to high perfection long before it was known in Europe. Connoisseurs in ceramics call all Japanese ware by the same name; but the Japanese have special names for more than a dozen different kinds, distinguishing some by the names of the cities where they are made, and others by peculiarities of manufacture or decoration. The entire exhibit of both porcelain and pottery made by all the other countries of the world does not furnish so great a variety in forms and styles of ornamentation as Japan alone shows. I cannot undertake even the most superficial description of the multitude of curious and beautiful articles in this group, and will mention only a pair of vases about 10 feet high, valued at \$2,500, with golden dragons

in relief on a blue and white ground and landscapes of extreme delicacy of drawing; the Kaga ware in scarlet or green and gold, that has a brilliancy of color equal to that of Bohemian glass; the Banko ware, with colors worked through; the Yokohama ware, with a white ground and graceful ornamentation in gold and colors; and the great vases of pottery, with a creamy white ground thickly overlaid with figures in green and gold. The manufacturer of these vases is here in charge of the entire Japanese ceramic collection. He told me that he designed to present a large jar of very curious form, valued at about \$500, to the Philadelphia Museum, as a testimonial of his interest in the Centennial. A collection of porcelain figures from Tokio caricaturing the manners of the various classes of Japanese society is exceedingly droll, and while laughing at the amusing attitudes and grotesque expression of countenances, one cannot fail to marvel at the artistic skill the figures display.

The third great Japanese specialty is lacquered ware. Here we are in a new world of marvels. The little articles that find their way to our bric-à-brac shops furnish but a faint idea of the nicety of workmanship, the prodigality of ornament, or the variety of forms we meet with there. There are little cake-trays costing 50 cents, large cabinets glittering with gilding marked \$1,000, and between these two extremes the variety of articles is innumerable. It seems that the art of lacquering has declined somewhat in the course of the last three centuries, and that the old masterpieces cannot now be duplicated. One would not imagine there could be any degree of perfection beyond that attained in the modern articles that crowd the bazaar-like alcoves; but when one of the exhibitors gravely unlocks a large showcase, throws up the side and supports it on iron rods, and calls attention to the pride of the collection—a cabinet 350 years old, heavily ornamented with gilding and engraved silver plates, and looking in spite of its venerable age as fresh as its comrades just from the shops of Tokio—one sees the difference between the old work and the new. "What is the price of the cabinet?" I asked, through the interpreter, of the exhibitor, whose little black eyes glinted as he explained in dumb show the beauties of his treasure. Five thousand dollars was the figure he named. No doubt somebody will be found to buy it before the Exhibition closes. In comparison with the modern cabinets of the same size, for which \$800 is demanded, it is not dear.

The art of lacquering is believed to be more than a thousand years old. The finest modern ware is made in Tokio and Kiyoto, and the less artistic ware is produced throughout the empire, the business appearing to be almost as widely practiced as that of cabinet-making in this country. Lacquer, it may be remarked for the benefit of people who have no encyclopedia handy, or who are not so fortunate as to possess the very excellent catalogue of the Japanese section, is the sap of a tree called "*Rhus Vernicifera*," and is applied, layer upon layer, to a wooden surface with brushes and spatulas. The figures in relief are either carved or built up on the

plain surface by successive applications of the liquid. The pretty gold-sprinkled lacquer is made by sifting small pieces of gold leaf upon a freshly-painted surface, which is then coated with a choice quality of lacquer prepared with gamboge, and afterward polished when hard.

In passing to another group I will mention only the exquisite little ivory cabinets, and the curious vases made of sections of elephants' tusks, ornamented with lacquered work. A variety of work in inlaid woods and in a plain wood of a dark orange color that takes a high polish next claims attention. These articles are naturally much cheaper than the lacquered ware, and the nicety of finish is equally remarkable. There is one exhibit of furniture in European forms that shows the capacity of the Japanese to excel the artisans of the *soi-disant* civilized nations in their own lines of work. The upholstered chairs are admirable, and there is a wardrobe in carved walnut that surpasses anything of the kind in the Italian court. Glancing a moment at the curious work in straw, the boxes and hanging cupboards in mottled lacquer, resembling bookbinders' marbled paper, and the cases filled with rich silk fabrics, we come to the display of screens. In these articles remarkable effects are produced by combining embroidery with painting, the faces of the figures and the outlines of landscapes being painted on the silk background, and the costumes, animals, houses, &c., brought out in relief by the embroidery. There is material for hours of study of Japanese life and manners in these screens. The prices of the larger sizes range from \$100 to \$400, and for the latter price one gets a whole Japanese picture gallery. The best pictorial art in Japan appears to be devoted to the decoration of screens, and the wealthy and cultured Japanese takes the same pride in his collection of these articles that a merchant prince in New-York does in his gallery of paintings. In painting on silk unaided by embroidery the most artistic effects are produced in scenes from the history and traditions of the country, and in genre sketches. Some of the smaller screens, designed apparently to be hung like pictures on walls, show delightfully quaint conceptions. For instance, there is one that represents a long line of green grasshoppers marching in single file on their hind legs, each carrying a different species of flower. In the center of the line a dignitary is borne in a palanquin. A big black beetle leads the van, and a company of astonished frogs sit like peasants by the roadside and watch the strange procession as it passes. A remarkable feature of this droll picture is that it has a tolerably good perspective—a quality in which Japanese art is notably defective.

Peculiar Japanese articles which should not be passed over without notice are the soft deer-skins, with dyed patterns like those on calico, and the colored and pressed leather with gilded and bronzed patterns, used for toilet-cases and fancy boxes. The paper made, not from rags, but from plants cultivated for the purpose, is also interesting—especially the crape-paper, which is a close imitation of crape,

and the water-proof paper used as a substitute for cloth in umbrellas and cloaks.

A large bazaar of costumed images in plaster, showing the dress worn by all classes of the population of the empire, repays careful study. Beyond it we enter an area devoted to the Government exhibits of building stones, metallic ores, coals, medicinal plants, grains, stuffed animals, wax-prints, ambulances, and a multitude of other objects. Our tour ends in the Educational Section, where are excellent maps, school-books, charts of geometrical figures, compositions in English, French, German, and Japanese, written by pupils in the public schools; philosophical instruments, and a history of Japan in nearly a hundred small volumes. Judging from this exhibit, the success of the new educational system in the empire would seem to be assured. I have been able, in the limits of this article, to give the reader only the merest glance at the interesting and curious subjects that crowd the Japanese department. The visitor who gives them only the most hasty inspection will be forced to reconstruct his ideas of the singular people that produced them. How can he longer think of a nation as semi-civilized that makes the finest porcelain, while we in America have not advanced beyond the common kinds of pottery; that surpasses the French in the art of bronze manufacture; that sends us silks that vie with the products of the looms of Lyons, and that excels the whole world in carpentry and cabinet-making? The quaint little people, with their shambling gait, their eyes set awry in their head, and their grave and gentle ways, how can it be in them to make such wonderful things?

THE ORANGE FREE STATE.

THE NEAT DISPLAY OF A PLUCKY LITTLE FAR-AWAY AFRICAN STATE.

PHILADELPHIA, May 19.—At the corner of the Main Building nearest to the principal entrance to the grounds, visitors come upon a small inclosure draped with yellow and orange, mingled with the familiar red, white, and blue. The name inscribed above the portal puts everybody's knowledge of geography to the test. "Orange Free State" it reads. "Where is it?" ask the puzzled visitors of each other. Not one in ten appears to know. The general opinion is that it is situated somewhere in Germany, but some say Central America, and many frankly acknowledge utter ignorance on the question. The trophies of ostrich feathers that first strike the eye furnish some clew to the problem, and the courteous attendant within disposes of it at once by replying to the fire of questions somewhat in this wise: "The Orange Free State is in South Africa, north of the British colony of the Cape of Good Hope. It is inhabited by Dutch emigrants and their descendants, who are called *boers* (farmers or peasants), and native Kaffirs—about 75,000 of the former and 25,000 of the latter. The Government is republican, and is administered by a President and a legislative body called the Volksraad (People's Council). The country has an area of about 70,000 square miles, and the productions are wool, cattle, wheat,

corn, diamonds, and most of the fruits of the temperate zone."

When you have heard this you will say to yourself, or to the friend at your elbow: "Wonderful! Here is a country of which we knew nothing, or next to nothing, that has sent its products from the other side of the earth to do honor to our Centennial; its 75,000 people, lost from the sight and knowledge of the civilized world in that *terra incognita*, Africa, without a seaport or a railroad, and without a town as large as an average New-York village, have actually done more for our Exhibition than have several of our own States—more than Georgia, for example, with her million of inhabitants, or Texas." When you think of this you will feel like taking off your hat to the little Dutch-African Republic and giving a cheer for its yellow and white flag; and when you get home you will, no doubt, get out your Cyclopaedia and read the romantic history of the country. It will tell of the great *trecken* or emigration of thousands of Dutch colonists from the Cape of Good Hope, who, in 1839, to escape British rule sought a new home in the wild country upon the Orange River; of their struggles with the warlike blacks, who harassed their settlements just as the Indians did those of our forefathers; of the renewed oppressions of the British, and of the final grant of independence in 1854, growing out of the desire of the English Government to have the aid of the Boers in a threatened Kaffir war.

What do they show, these enterprising Dutchmen who are thus civilizing a barbarous land? Not many things, but the few they send are interesting and good in their way. There is white wheat with remarkably large berries; excellent corn; a singular grain called Kaffir corn; wool in huge glass-topped boxes; the hides of the springbok, jackals' skins, dried fruits, and bituminous coal. Then, in the way of manufactured articles, there are rhinoceros-hide whips, harness of first-rate workmanship, and a model of a wagon for wool transport. Among the natural curiosities is the fruit of the cream of tartar plant—a small gourd containing a handful of brown seeds about as large as Lima beans, each covered with a white powder, which it is said possesses all the properties of cream of tartar. The cases of stuffed birds of brilliant plumage give an idea of the ornithological richness of the country, and a diamond in the rough, worth about \$7,000, stands for the recently discovered wealth of the diamond fields. A pair of elephant tusks are the largest in the Exhibition except those in the Egyptian section.

The Orange exhibit is a Government affair, made through the agency of Mr. Charles W. Riley, the Consul-General of the Republic in the United States. A handsomely printed pamphlet gives a good resumé of the history and statistics of the country. A photograph of President Brand, taken in Bloemfontein, the capital, represents a man of about 50, of the square-built Holland type, with an intelligent and remarkably resolute expression of countenance.

BRAZIL.

CHARACTER AND VARIETY OF THE BRAZILIAN EXHIBIT—SPECIAL ATTENTION GIVEN TO THE EDUCATIONAL DISPLAY.

PHILADELPHIA, Aug. 17.—No feature of the admirable representation of Brazil at the Exhibition is more creditable than the publications issued for distribution here under the direction of the imperial government. Chief of these is a volume of 500 pages, descriptive of the institutions and resources of the country, of which there are editions in English, Portuguese, and German, all printed at Rio de Janeiro, and very handsomely printed, too. The title is "The Empire of Brazil at the Universal Exhibition of 1876 in Philadelphia," but the book does not contain, as the name might be supposed to imply, a catalogue of the Brazilian exhibits at the Fair, but is a thorough treatise on the geography, animals, vegetables, and minerals of the country, its government, military and naval resources, its postal, telegraph, and railroad systems, its schools, libraries, museums, and other aids to intellectual culture, its commerce, public debt, monetary and banking system, its churches, and the inducements it offers to immigrants. It would scarcely be possible to give in the same compass more information concerning the great empire of South America than is contained in this volume. Its compilers state in the preface that they "have had in mind to proffer only plain truths," and they have certainly succeeded in presenting a remarkable cyclopaedia of facts concerning Brazil. The catalogue of the Brazilian exhibits is a volume of 177 pages, prefaced by a few pages of statistics, and containing diagrams of the sections they occupy in the Main Building, Machinery Hall, Agricultural Hall, and the Women's Pavilion. The book is printed in Philadelphia, and it is a sufficient compliment to its typography to say that it is as good as that of the larger work just noticed. Next in order of size is a pamphlet of 120 pages, with handsome cover, tinted title page, and a lithograph of the author, entitled "Agricultural Instructions for those who may Emigrate to Brazil, by Dr. Nicolau Joaquim Moreira," printed at the Imperial Artistic Institute of Rio. Dr. Moreira is one of the Commissioners to the Exhibition, and is in charge of the very fine agricultural collection, the formation of which was largely the result of his zealous and intelligent efforts. The book gives the laws in force in Brazil concerning emigration, the public lands and the formation of colonies, and then takes up each province of the Empire separately, and discusses its climate, productions, and its special inducements to settlers. "The Maté of Parana" is the title of an octavo pamphlet of 20 pages, printed in four languages in parallel columns—Portuguese, French, English, and German—and prefaced by a tasteful title-page, in colors, showing the leaves and berries of the plant described. Maté, or Paraguayan tea, is chiefly produced in the Province of Parana, where the shrub grows wild. The value of the annual export (chiefly to the Argentine Republic) is about \$2,000,000, and the home consump-

tion is large and constantly increasing. The price of the herb in Brazil is from 10 to 15 cents per pound, and it is estimated that the cost of drinking the infusion three times a day is a little over one cent. There would seem to be no reason why the cheapness of the article should not bring it into use in this country as a substitute for Chinese tea, for it could undoubtedly be retailed in our market at about 25 cents per pound. Its properties are substantially the same as those of tea, but it contains less essential oil, and is therefore less exciting to the nerves; besides, it possesses more nutritive qualities.

The highly ornamented colonnade that encircles the Brazilian section in the Main Building is sometimes criticised on the ground that, by its fanciful Moorish architecture and brilliant coloring, it detracts from the effect of the articles within, like a frame to a picture which, by its novelty or beauty, should make the picture itself of secondary interest. This criticism is undoubtedly just, but the structure is so attractive, and its tropical wealth of bright colors appears so appropriate, that few people find fault with it. The only exhibits that fully harmonize with that gay inclosure are the artificial flowers made of the feathers of tropical birds and the jewelry of blue and green iridescent beetles. The former are exceedingly pretty and wonderfully natural, and have the additional merit of being by no means dear for exhibition goods. Fifty or seventy-five cents buys a buttonhole bouquet; larger ones cost from \$1 to \$3, and sprays for bonnets or the hair are of all prices up to \$20. Apart from these handsome objects and the case of the decorations of various orders belonging to the Emperor, the section presents a rather commonplace look. The large collection of minerals has not much interest for the unscientific visitor, for the precious stones which might be expected to lend it attractiveness are shown only in the rough. Among the manufactured articles the best are the leather goods, which include boots and shoes of good quality, harness, and excellent saddles of embossed leather. Next to clothing the feet, the Brazilians appear to do best at making coverings for the heads, their felt and silk hats looking nearly as well as those shown in the Broadway shops. There is some cane-seat furniture of graceful shapes, made of peculiar native woods, that are well adapted for decorative cabinet work, and there is an ingenious contrivance which can be packed into small compass for transportation, and develops on requirement into a bed, a table, a washstand, four chairs, and a toilet table. Along with a good deal of ordinary terra-cotta work are shown a number of large vases in imitation of ancient Etruscan ware, which, while not comparing with the similar style of ware shown in the Danish section, display considerable artistic taste. The cotton and woolen clothes are not worthy of particular notice, except as evidences that the textile industries have got a foothold in the country.

The most prominent group, and the one where most pains have obviously been taken to make an impressive display, is that of education. Another correspondent has already described the school ex-

hibit; and I need only add that while it contains nothing new to American teachers, it affords satisfactory proof of the progress made by Brazilian educators in their crusade against the dense ignorance prevailing among the common people of the country, and of the intelligent and vigorous coöperation they receive from the imperial and provincial governments. Interesting displays are made of the work of the pupils in the Deaf and Dumb and Blind Asylums, and of drawings made in the schools of Fine Arts and of Mechanics. The other noticeable objects in this group are books on literary and scientific subjects, maps, and a number of excellent photographs of scenery in various parts of the country.

AUSTRALIA.

THE PRODUCTS OF THE SEVERAL COLONIES—PROTECTION AND FREE TRADE BOTH ON TRIAL—BEAUTIFUL ARTICLES.

PHILADELPHIA, July 21.—Four of the five Australian colonies—Victoria, New South Wales, South Australia, and Queensland—are represented at the Exhibition. The fifth colony—West Australia, a penal settlement of scanty population—sends nothing. The display made by these vigorous young States, settled by people of our own lineage, who are building upon the virgin soil of their vast island continent a new English-speaking nation, by somewhat the same process of growth we ourselves have gone through, has a surpassing interest for Americans. Their advance has been at a more rapid rate than ours, but they began two centuries later than did the first American colonists, and in their struggles with nature they have had the aid of all that civilization has achieved during those centuries—the steamship, the railway, the telegraph, the powerloom, the steam printing press, the quartz-mill—all the great modern arts and inventions have worked in concert there with Anglo-Saxon sturdiness and industry. Nevertheless, the accomplishments of these Australian colonists may well excite Americans' admiration. There is a certain solidity in their work, displayed in their buildings and public improvements, that shows they are laying deep and secure the foundations of their social and industrial life. They have handsomely-built cities, well-constructed railways and public roads, good schools and newspapers, many creditable manufactures, and are multiplying and prospering as only scions of the good English stock planted in a fertile soil and in a genial climate can multiply and prosper. The population of the colonies, from a handful of settlers in 1830, has increased to over 2,000,000. When Americans come to celebrate their second Centennial there can be little doubt that Australia will be a powerful, independent nation, similar in form of government to the United States, and boasting of a population nearly equal to what it now possesses. All the conditions exist for building up such a nation—a vast area covering 25 degrees of latitude and 40 of longitude; a climate more agreeable than our own in corresponding latitudes, because marked by no such extremes of heat and cold; a soil producing the fruits and grains of

the temperate and subtropical zones; rich mines of gold, tin, and copper; unlimited fields of coal, and finally, active, intelligent, and enterprising inhabitants. From entire dependence on England, the colonies have become self-governing States, with but slight political relations with the mother country. As soon as railroads unite them, the next progressive step will no doubt be the establishment of a federative union like that formed by the British-American Provinces, and, a little later, will come independence by friendly agreement with Great Britain.

Victoria, smallest but most populous of the colonies, because containing the richest gold fields, has but recently repaired the damages to her goods, caused by the leaking of the ship in which they came, and put her court in complete order. At the entrance hangs a tablet giving the statistics of the gold product of Australia and New-Zealand since 1851. Victoria, it appears, produced \$875,508,781; New South Wales, \$157,437,896; Queensland, \$33,843,400; South Australia, \$40,297; and New-Zealand, \$153,992,660. These figures give an idea of the great role the precious metal has played in the development of the colonies. Fac-similes of the largest nuggets found in the Victoria diggings are shown by the Government. The California mines never produced anything approaching them in size. Wheat, barley, oats, and wool are the principal agricultural products exhibited. All the grain is of noticeably good quality, and the size of the fleeces of wool is remarkable. Victoria, exceptional in this respect among her sister colonies, has a protective tariff, and levies 25 per cent on all imports for the avowed purpose of stimulating home industries. Here appears to be a good opportunity for political economists to test their conflicting theories, for the neighboring colony of new South Wales pursues a precisely opposite policy, and has established absolute free trade. If each will adhere to its system long enough, we shall have something like a fair trial of the merits of the two systems. Now the advocates of each might find encouragement in the exhibits of manufactures made respectively by the two countries, the free-trader pointing to the excellent woolen cloths, blankets and shawls, cordage, stoneware, wines, saddles, harness, and food preparations in the New South Wales Court, and the protectionists exulting over the same articles in the Victorian Court, and discovering besides furniture, stained glass, glue, paper, basket work, and other articles. It must be admitted, however, that Victoria displays the greater variety of manufactures, and might have sent many other things equally creditable, while New South Wales puts her best foot forward. The representatives of the latter colony affirm, however, that their commerce is increasing at the expense of that of Victoria, and that they are drawing population constantly from that country. It will take at least a quarter of a century to work out the problem, and see which of the two systems is the better for industrial development. Meanwhile, in the interest of social science, let me hope that each colony will stick to its own theory.

An excellent feature of the Victorian exhibit is the collection of photographs, grouped in frames of uniform size, illustrating the scenery, towns, and principal buildings in each of the shires into which the colony is divided. By the aid of these pictures one can see the whole country, and travel in imagination through its cities, villages, farms, mines, sheep stations, and its wild interior districts. The most striking landscapes are shown in a number of oil paintings of much larger size than the photographs. Cases of stuffed birds and animals, pyramids of dessert biscuit (crackers), shelves of ales, wines, potted meats, canned fruits, blacking, and other preparations in tins and glass, handsomely bound books and sheet music, very fine wool mats, gas-cooking ranges, a handsome pier glass and console table, a piano with carved case of rich native woods, and a large collection of minerals, are noticeable objects. Among the educational exhibits is a framed card containing the Lord's Prayer in 50 different systems of short-hand, the oldest being that used by Cicero, B. C. 50.

The adjoining section is that of South Australia, a comparatively new colony, extending clear across the center of the island from south to north, but having its chief settlements on the southern coast. Its mining interests are very small, but by way of compensation its agricultural resources are better than those of any other colony. The southern portion is claimed to be the finest wheat-growing country in the world. Statistics of the exports of wheat displayed on tablets hung on the walls of the court show this industry to have made immense strides in recent years. The pasturage is also excellent, sheep and cattle grazing the year round. No less than 112 varieties of wine are shown in small decanters of uniform size. Maps and photographs illustrate the remarkable enterprise, recently completed, of constructing a telegraph line across the island. A series of photographs of farm scenes affords interesting glimpses of the rural life of the colonists. There are collections of minerals and of stuffed birds and animals, native weapons and implements, skins of the emu tanned with the feathers on; a remarkably fine display of wools and grains, cocoons and skein silk, a pile of specimens of native woods, a table heaped with iron ores, and a box of emu eggs. The most novel and beautiful class of objects is that of cups, vases, inkstands, and mantel ornaments made of these eggs. They are as large as ostrich eggs, and have a dark green surface resembling granulated morocco leather. The Adelaide jewelers set the eggs in silver, and make a variety of beautiful objects that are highly prized as characteristic mementoes of the country. One of the more elaborate pieces represents the egg (which opens and forms a casket) as a rock on a hill, overshadowed by a peculiar indigenous tree. On the slopes of the hill groups of natives in oxidized silver hunt emus and kangaroos. Another shows a group of gold miners at work in the egg, and a lively encounter between natives armed with spears and clubs going on outside in the midst of singular vegetable growths.

The New South Wales Court is larger than that of

either of the other colonies. This colony is rich in coal, gold, and copper, contains thousands of square miles of good wheat land and pasturage, has 450 miles of railway in operation, and is making rapid strides in population and wealth. The inhabitants number about 600,000, and there is room for ten times as many more. Its immense coal-fields make it the certain future seat of extensive manufacturing enterprises, unless its free-trade policy works against development in this direction. A mineral trophy, contributed by the Government Department of Mining, is, after the great yellow column representing the gold production, the most prominent object. It consists of four large buttresses of coal from different mines, and of specimens of iron, lead, tin, copper, and auriferous ores. There are fine specimens of the tin ores that have recently proved an important source of wealth. Among the numerous photographs are the largest from single negative plates to be found in the Exhibition. One—a view of Sydney Harbor—measures five feet by three feet four inches. A pyramid of wine in bottles embraces over 100 varieties, and proves that the country produces readily all the best European grapes. A small ornithological collection contains a number of peculiar birds—among them being the "Settler's Clock" (*Dacelo gigantea*), that salutes the rising sun with a sound resembling a "horse-laugh," and the Herodias crane, that carries attached to the middle of its back a number of long skeleton feathers that it can erect at pleasure. The wool exhibit is very large, and among the manufactures the woollens occupy

much space, including cassimeres of remarkable softness and flexibility, excellent blankets, and shawls. Leather in great abundance, including kangaroo leather, used for boot-tops, is displayed, and there are well-made saddles and harness. The specimens of native woods are very numerous, and are nearly all of kinds unknown elsewhere than upon the islands of the Australasian group. Many of them make capital ship-timber, and others are well adapted for furniture.

The compact and methodically arranged court of Queensland has already been described in these columns, and I will only mention briefly its chief features to give the colony a place here with its sisters. The wall space is divided into black panels, which give descriptions and statistics of the different districts of the country, divided geologically. Below these tablets are colored photographs of landscapes, towns, and farm and mining life. Under the tablets, on tables, are specimens of the woods, soils, and minerals of the districts thus described and illustrated. A gold pyramid and exhibits of wines, tin, tobacco, sugars, oils, cocoons, wools, &c., fill the center of the court. Queensland is a comparatively new colony, occupying the north-eastern part of the island, and having in its northern portion an almost tropical climate. Chinese labor has poured in of late, but the settlers, unlike the Californians, appear to welcome it. Mining is the chief pursuit, and manufactures are in their infancy. The agricultural resources are exceedingly promising, but are thus far but scantily developed.

V.

POTTERY AND BRIC-A-BRAC.

THE BRITISH SECTION.

CERAMICS—ART-FURNITURE.

PHILADELPHIA, May 12.—Two classes of goods in the British section not only lead all other representations of the industries of England, but may almost be called the most striking collections of the Fair. These are ceramics and furniture. The principal display of pottery, porcelain, &c., is placed on the main transept, and fills the whole space from the N. entrance to the silver-smith's show-case which fronts on the nave; but it is not all included in this territory; specimens are found in conspicuous places almost everywhere; they are built up as trophies along the middle of the nave; they are borrowed by exhibitors in other classes to decorate their inclosures; and they may be seen in some of the buildings besides the Main Hall. Agriculture, architecture, chemistry, metallurgy, the garden and the drawing-room, the church, the kitchen, and the dinner-table, all call into use the skill of the ubiquitous potter. There are vases worth \$2,000 a pair, and within arm's reach are spigots worth the price of a mug of ale. Mr. Doulton of Lambeth is here in per-

son with an immense display of the peculiar stoneware to which he has given his name and the terracotta for which he has made a world-wide reputation. Near the door he has heavy stoneware utensils for manufacturing purposes—jars big enough to have held the Forty Thieves—crucibles, stills, smelting pots of stoneware and plumbago, and terracotta for the use of the builder. The visitor is first attracted, however, to the ornamental pieces in what is known as Lambeth faience—vases of graceful shape, the flat "pilgrim bottles," which seem made for the pretty little hanging cabinets of the new-old fashion, tankards and drinking-cups, and platters which it would be a shame to soil with food, all in peculiar hues of indigo and deep brown, and odd tints of green and buff.

There is a temple in the principal nave of terracotta columns and arches, with dark blue stoneware collars and ornaments, devoted to the exhibition of Doulton ware and the Lambeth faience, and another is building under one of the towers. It will be welcome news to our readers that excellent small specimens of this work, suitable for the decoration of the

sideboard and the cabinet, cost but a moderate price. The temple under the tower, which is only just begun, will have columns of buff terra-cotta, with hand-painted fruits and flowers. Near it is the sub-structure of a great terra-cotta pulpit, showing the two characteristic colors of this ware, red and buff, with indigo ornaments. The back, which is not yet in place, will consist of red terra cotta alcoves, and groups of whitish figures against them in relief. There is a font to match the pulpit, and on this the visitor may find, with little effort, some unique products of the Doulton potteries. These are small panels, about four inches wide and twelve inches long, deep sunk and showing in high relief a series of scriptural groups, with appropriate legends. There are ten or twelve figures in each panel, and the attitudes and expression in many instances are wonderfully good considering the unhandy material in which the idea has to be expressed. What is thought of the merit of these works in London may be inferred from the fact that four of them have just been admitted to the Royal Academy, and the British Commissioners have caused two larger specimens in plain terra cotta to be exhibited in the Art Gallery here. A number have been framed as mural and cabinet decorations. One series is devoted to childhood scenes from the Bible—Christ blessing little children, Solomon's judgment, the Shunamite's son, the Adoration of the Wise Men at Bethlehem, the Massacre of the Innocents, and so on. The artist is George Tinworth of London, and they appear in the catalogue under his name instead of that of the manufacturer.

The combination of useful and decorative pottery is shown in the British Section by several constructions representing the whole side of a room, and one of the most conspicuous of these illustrates the application of Doulton ware to fire-places. There is a mantel-piece and mirror frame of buff terra cotta, with hand-painted tiles in the panels, reaching to the ceiling; the sides and back of the fire-place are of colored and figured encaustic tiles. The hearth will be tiled, and a parapet of terra cotta around it will serve as a fender. A beautiful little clock, in the brown and indigo stone-ware, and a few elegant vases, plaques, &c., on the mantel, complete the pleasing effect. There is a somewhat similar mantel-piece in Lambeth faience. There is another in dark oak, the woodwork being little more than a great frame for the exhibition of a set of Shakespearean tile-paintings, Touchstone and Audrey on opposite sides of the fire, and seven scenes from the Midsummer Night's Dream overhead. The uses of painted tiles are innumerable. Mr. Doulton even shows them inserted in the backs of chairs. The Lambeth potteries indeed seem capable of baking almost anything, from the terra cotta copy of Bell's "America" group, which stands in Memorial Hall, to the most exquisite bit of painting or the commonest glazed pie plate.

The display of tiles of all sorts, several makers being grouped close together, rivals in extent that of the Doulton wares, and embraces many beautiful specimens. Minton, Hollins & Co. of Stoke-upon-

Trent have perhaps the largest and most varied collection. They show chimney-pieces as big as the side of a small room, constructed entirely of tiles, figures of birds and flowers around the fire-place, a large domestic scene over the mantel. Here is a brilliant picture, four feet square, a water view with two big cranes pecking at the lily buds. Just beyond are single tiles with allegorical figures of the seasons, in black outline on a gold or a silver ground. There are humorous figures, and there are heads of animals, and among the latter are several distinguished dogs, all true portraits. There are tiles glazed and unglazed, printed, enameled, hand-painted, majolica; and lastly there are the ceramic tesserae, of which one may construct a tolerable imitation of coarse mosaic. Maw & Co. of Broseley, in Shropshire, have a good copy of an ancient fresco in ceramic tesserae and porphyry. This surmounts a chimney-piece, the fire-place being bordered with white outline figures on reddish panels. Several pictures of falcons painted by J. Randall, F. G. S., on Coalport porcelain, and some very fine specimens of tessellated floors and wall ornaments, are among the other features of this part of the group.

Of the finer kinds of porcelain the rarest collection will be found in the inclosed court of A. B. Daniell & Son, the best of whose wares were made for them by the Mintons and the Coalbrookdale Company. In the center of their principal show-case stands the "Prometheus Vase," a noble piece of work about four feet high, of a rich turquoise blue body. The figures of Prometheus and the Vulture are on the cover, but perhaps the most remarkable parts of the vase are the handles, which consist of chained figures in scale armor; the armor imitates so exactly the appearance of metal that one can hardly believe it to be, as it is, entirely of china. A still more interesting study is afforded by a variety of vases of pure Greek shape, modeled from specimens in the British Museum, and decorated by the *pâte sur pâte* process by L. Solon, formerly of Sèvres. There are two pairs of especial magnificence, the body a rich dark bronze color, the chief decoration a series of exquisite figures, on one pair emblematic of the elements Fire and Water, on the other representing a race between the three Graces, with Cupid cheering them on. The delicately molded forms, seen through the flying and half-transparent drapery, are instinct with life and movement. The finer pair, with the Cupids and Graces, has been purchased by Sir Richard Wallace, of whose collection all connoisseurs have heard. Anybody who wishes to buy the others can perhaps secure them at the moderate figure of 380 guineas—or say a thousand dollars a piece. There are smaller but hardly less beautiful vases enriched by the same artist, and for those whose purses are not quite so long there are plates with medallion centers bearing *pâte sur pâte* figures. The peculiarity of the process is that the figures are painted upon the body of the article with liquid china, which after firing becomes either semi-transparent or opaque according to the thickness with which it is laid on. In its wet state, however, it is uniformly opaque, and the nicest

touch and judgment are necessary to regulate the application, since mistakes are irremediable. There are some beautiful vases in which natural clays of various colors are laid on separately before the piece is fired, and *pâte sur pâte* figures are added for the decoration. These, it need hardly be said, are extremely costly. Another of the rarities of the collection is a little set of Henry II. faience, a copy of some priceless gems of the sixteenth century, a teapot of the oddest imaginable design, a pitcher hardly less quaint, a pair of candlesticks, and a pair of *salieres* supported on tall columns. The body is a pale yellow clay and the decoration, in red, is not painted, as the superficial observer might imagine, but inlaid, the design being cut out and the red rubbed in. Then there are imitations of old Limoges enamel, copies of Grecian antiquities, pilgrim bottles of choice design, novel examples of Florentine metallic decoration. In the way of plaques there are large ones, with paintings on a gold ground by H. S. Marks, representing Shakespeare's Seven Ages. When it comes to porcelain intended—really or ostensibly—for the table rather than the cabinet, the richness and variety of the display are bewildering. An exquisite tea and coffee set is decorated in what is known as the cashmere pattern—green, gold, and red in the figures of India shawls. Of plates that are good enough for the banquets of the gods there seems to be no end. White enamel on a turquoise ground, at four guineas a plate, white with superb Japanese figure-pieces, bright blue with birds and flowers, blue with a bird on a white medallion, white with large colored leaves—such are a few of the most striking styles, in all which the fineness of the designs and the richness of the color are alike remarkable. A number of the gems of the collection have been purchased by the Museums of Science and Art at South Kensington and Edinburgh, and others, I am told, have been secured for the Museum in Philadelphia.

T. C. Brown-Westhead, Moore & Co., whose inclosure is next to that of Mr. Daniell, make a display of a less costly character, having a larger proportion of articles which, if you are rich and luxurious, you might not consider it a sin and a shame to use. These are good specimens of the Staffordshire potteries, and embrace almost everything that can be made of china. Some of their tile paintings and encaustic tiles for mural decorations are very good. They make a specialty of a striking, but not to my taste very beautiful ware in white, with large birds and leaves in ultramarine, offering both ornamental pieces and dinner sets. It is not dear, a dinner set of about 100 pieces costing only \$85 in currency. Among the majolica ware are some pretty little strawberry baskets, which will be a novelty here; and as a specimen of bedroom china the Exhibition points with pride to a white and gold washstand, with sunk basin, soap and brush trays, &c., a copy of one recently made for the Queen. There are two Dresden ware mirror frames—garlands of flowers, one colored the other white. Bates, Walker & Co. of Burslem contribute a variety of china and earthenware which they define as "specially adapted

for the American trade," and Powell & Bishop send specimens of the Staffordshire potteries, including "white granite for the United States markets." The artistic element in these wares, however, is not conspicuous. Brownfield & Son of Staffordshire send a very attractive selection of table china, &c., and the Watcombe Company of South Devon exhibits terra cotta statuettes, plaques, vases, and other objects in the beautiful red clay, both plain and painted.

The display of Furniture is not less interesting than that of Ceramics, and admirers of the "Eastlake style" in particular will find enough to delight their hearts. Several manufacturers have arranged their space so as to give a representation of a suite of rooms furnished and decorated in different patterns. James Shoolbred & Co., London, present for instance in this way the Jacobean, Queen Anne, and Anglo-Indian styles in five or six complete little rooms with carpets and wall hangings. There is a dining-room set of carved oak, with a superb sideboard, and another of carved mahogany of a beautiful warm color. Wright & Mansfield of London, who took the only gold medal for furniture awarded to any English manufacturer at the last Paris Exhibition, have several rooms with cabinet furniture in the old English style of the eighteenth century—an inlaid mahogany sideboard, a mahogany and satinwood secretaire, and a writing table of the same material, a beautiful satinwood wardrobe, side tables of satinwood, and the soft gray harewood, and a satinwood cabinet richly inlaid. Mahogany has been driven out of fashion in this country by the vulgar and coarse manner in which our furniture carpenters have treated it; anybody who will visit the British section at Philadelphia will see what an exquisite wood it is—even while new—in the hands of an artisan who understands its character. It is probably the heavy carvings, however, and the hanging cabinets which will be the most generally admired. Cooper & Holt of London show a grand sideboard of dark oak, elaborately carved. Wm. Scott Morton & Co. of Edinburgh have a sideboard in stained wainscot with panels of embossed leather. Cox & Sons, London, exhibit a carved oak sideboard, a carved oak chair of the "Glastonbury form," small hanging cabinet of many beautiful styles, and a wall-cabinet of oak, with brass mountings and highly elaborated panels of real bronze. The feature of their show, however, is a huge chimney-piece, forming the greater part of the end of a room. It should have been described rather with the ceramics than the furniture. The fire-place is of stone and marble, inlaid with tiles painted by hand in white and red, with birds, foliage, and four figure pieces, representing the Song, the Tale, the Jest, and the Book, fit amusements for the fireside. The framework is of carved oak, with mirrors and three painted panels, the subjects being Maternal Affection, Conjugal Affection, and Filial Affection. Many of the cabinets which abound in this region of the building, and most of the sideboards also, are set off adroitly with specimens of porcelain, Doulton ware, or terra cotta, in the shape of plaques, vases, and ornamental

tiles. Ebony or ebonized wood is extensively used, and some colored woods are employed which we do not often see. A combination of oak with polished ash root makes a splendid contrast. Harry Hens of Exeter sends a sturdy oak chest made out of beams nearly 600 years old from the choir of Salisbury Cathedral. It is about 5 feet long and 4 feet high, with a ridge-roof lid and enormous iron mountings. The deep carvings are said to be in every instance reproductions of existing examples of early Perpendicular Gothic in the West of England.

Several of the continental nations, notably Belgium and Italy, contribute remarkable specimens of carved furniture, but the English work, in the union of richness and solidity, seems to be unrivaled. It will be good discipline for the American visitor, after he has examined some of the pieces I have mentioned, to cross over to the other side of the building and look at the upholstery and cabinet-ware of the land of his birth. There he will find enough furnished rooms and platforms to start a Centennial hotel, and every opportunity for spending money that the most extravagant could desire. He will find also some pretty good joiner work, and now and then some creditable carving; but of the application of any rules of art to the making of furniture, any taste, or any definite idea there is hardly a trace. Where the wood-work is fair the upholstery generally spoils it. Surrounded by discordant prismatic colors and glaring outrages upon the first principles of decoration, one seems to be wandering through the best parlors of a brand new flash hotel, or making a trial trip in a crack North River steamboat. Of course there are exceptions to this prevalence of the gaudy, and American workmanship has many excellent features; but our best furniture is not American at all except that it is made here; the designers and workmen are generally foreigners.

J. R. G. H.

THE FRENCH CERAMICS.

THE EXHIBIT IN THE MAIN BUILDING.

PHILADELPHIA, June 9.—The French exhibit of pottery and porcelain occupies a square of six stalls facing on the east side of the north transept and directly opposite the English display. While no one familiar with the subject will contend that the display, as a whole, conveys anything like a fair idea of ceramic art in France, it may be considered creditable, and, in certain special branches of manufacture, equal to the best that has been made. There are no novelties in the collection, and several famous factories, notably Sèvres, Deck, and Bouquet, have sent nothing, though it should be stated that ware from the Sèvres factory is to be seen among the bronzes and *fantaisie* porcelains of Kaffel Frères.

The specialty of the display of this firm is bronzes, but the firm also buy porcelain and faience plaques from the manufactories, either plain to be decorated by their own artists, or already ornamented, and mount these plaques in metal frames suitable for boxes, trays, and flower-stands. Noticeable in the collection are two porcelain vases of a rich turquoise blue color with medallions painted by A. de Loney,

a Sèvres artist. These vases are three feet in height, and the moldings, fillets, and handles are in highly ornamented gilt bronze. The medallions represent peasant groups, one a lad taking a music lesson and the other a drawing lesson. The drawing of the figures is tame, but the color is excellent; it is much softer than is usual with this kind of painting. There are also several stands of three trays each, in light and graceful bronze frames, the trays themselves being decorated china. Among the many appliances and toilet articles is a glove box in porcelain, with a charming little picture of humming birds and flowers painted on the white ground. The birds have dropped down on to the twigs of a rose-bush, and are quarreling over the possession of a butterfly. The drawing is spirited and nervous, and the color rich and delicate.

While I am speaking of decoration of this kind it will be well to observe that the style and extent in which it is practiced on faience is a distinguishing feature of the French exhibit. There may be two reasons for this—one, that the French china is, as a rule, hard, and the colors, therefore, lie dry upon the surface, so that the earthenware is better for the colors; and another, that it is quite common in France for the decorators to buy the ware in its white state, and paint it at home at their leisure. Manufacturers, also, send their china and earthenware to those artists who make this sort of work their profession. Sometimes, indeed, the piece passes through several hands before returning to the factory, as for example where a picture is painted upon it by some artist of note who has nothing to do with the other decoration. But the higher artistic excellence of French decoration and painting on French porcelain as compared with English work on the soft porcelain of England does not compensate for the rich blending of color which is only attainable on the latter ware. Another objection to this manner of painting on the glaze, especially for articles of table use, is the liability of the decoration, whether gilt or color, to wear off or to be injured by acids.

Opposite the stall of Kaffel Frères is one of the unique displays which help to make the French exhibit creditable. It consists almost entirely of reproductions and designs after the manner of the artists who made the Nevers faience famous during the seventeenth century. The specimens are from the manufactory of A. Montagnon at Nevers. Here are circular *plateaux* ornamented with medallion heads on a border of arabesques or grotesques in fine yellow lines on a blue ground, with central drawings of scriptural subjects—such, for example, as Moses striking the rock in the wilderness. These pieces are mainly after the manner of the Conrads. Other designs are copied from the work of Pierre Custode and his successors, and there are numerous vases, flasks, ewers, and tazzi in the more common style of the Saxons, and of Moustiers and Rouen. The prevailing colors in this ware, as in Italian majolica, are blue and yellow; but the two fabriques differ in this—that the figures in the former are always yellow on a blue ground, while with the

latter the process is reversed. The peculiar blue color in the old specimens, known as *bleu de Perse*, has not been successfully imitated in these reproductions, but some of the forms, chiefly in the ewers, are of exquisite design. Prominent in the collection is a long oval vessel, which I think is a wine-cooler, decorated with hunting scenes in blue on a white ground, and divided into panels by a bordering of brilliant yellow.

The other occupants of this stall are Thierry-Poulin, Charles Field, Haviland & Co., and Ostheimer Brothers, the agents for the *faïencerie de Gien*. The fine display of the latter fronts upon the transept. The first-mentioned firm makes a small display of decorated tableware. The designs are chiefly natural flowers, vines, &c., of good color and drawing, on white earthenware of excellent quality. Field, Haviland & Co. make a specialty of white ware, and they exhibit dinner services of a remarkably good quality and purity of color. The shapes of several of the sets displayed are designed expressly for the American market. The chasteness and simplicity of these designs, as compared with those not avowedly intended to attract us, argues well for the taste of our people. The same firm exhibits some dainty specimens of egg-shell porcelain, so thin and transparent that the surface color is seen through on the inner side of the piece. The *faïencerie de Gien* includes many excellent imitations of the ancient faïences of Rouen, Moustiers, Marseilles, and early Italian majolica. The decorated table services are only moderately good, but the vases and ornaments for the cabinet or buffet are in the main well deserving of praise. Two sets of mantel ornaments, the clock with attendant vases—a trio the French greatly affect—in designs respectively of Louis XV. and Louis XVI., are particularly rich and smooth in color.

The stall to the north of the preceding, and still fronting on the transept, is occupied by Ad. Hache & Pepin-Lehalleur Frères and Haviland & Co. of Limoges. The former makes the largest, and, in some respects, the best display of decorated porcelain in the French exhibit, the specimens being confined to services for the table and toilet. One sees here the influence of the revival or modification of Orientalism in ceramic decoration now obtaining in Europe. This firm makes a specialty of it, and some of the designs have all the boldness and originality of the manner characterizing the artists of the Orient. There are several superb sets of full dinner service, with pink and turquoise blue borders, with medallion centers, containing portraits of the celebrated beauties of the gorgeous Courts of the Louises, painted in the highest style of modern art—more suitable for framing as *plateaux* than for use for the purpose for which they were designed. The central object of this exhibit is a group—a center and side pieces—for fruit, flowers and bon-bons, which is a fine piece of decorated porcelain, as far as the mere technique goes; but, aside from that, it is characterized by an exuberance of ornamentation and a general gaudiness that spoils it as a work of art. It only lacks the name of some hotel or

steamer gilded on its surface to designate the position for which it is best suited.

The adjoining exhibit of Haviland & Co. is certainly the most astonishing in this department. Fastened against the wall is an allegorical design, 12 by 15 feet in size, made from enameled tiles about four inches square. This composition, as explained by the attendant, was designed by the artist Bracquemont to illustrate the rise and progress of the ceramic art. The entire middle foreground is taken up by a clay bank, which looks like a cloud of yellow dust, from which is rushing a figure with a copper-colored body and the head of a Hottentot. In his right hand he grasps what looks like a green bronze statuette of Mercury; in the other he upholds a rude earthen vase. The attitude and expression of this creature suggest that he has just committed a theft. Above him hovers a female figure, for what purpose the attendant could not say nor any one divine. But I was told, with all gravity, that the man represented an employé of the factory which is visible in the distance to the left, and the locomotive coming round the corner of the clay bank to the right symbolized the progress of the manufacture. The color and quality of the enamel in these tiles are, as far as I could see from their position, good, and in the hands of a good designer could be used to good advantage in wall decoration.

On either side of this plaque stand monster vases in gray unglazed earthenware; they are 12 feet high, including the statuettes springing from their sides as handles. The vase to the left is labeled, "1776, The Struggle," and the one on the right, "1876, Prosperity." These huge specimens of the potter's skill must have required kilns to be built especially for their firing. They are the united designs of Bracquemont and the sculptor Delaplanche. The vase typifying "The Struggle" has at its base a glazing of blue and white waves, surmounted by a circlet of cannon in alto-relievo. The watery effect is to convey the idea of a howling wilderness; the meaning of the cannons is obvious enough. Around the body of the vase is drawn in glaze an eagle conventionally treated, with a shield on its breast, and red and white striped wings. Above it is lettered a brief synopsis of the events of the Revolutionary War. Surmounting the body of this vase is a well-modeled bust of Washington, and two graceful and capably designed female figures, representing Peace and War, from its handles. The other vase differs from the first only in that the bust on it is a dignified and admirably conceived Columbia, the lettering is a list of our Presidents to the present time, and the base is surmounted by cornucopias and piles of fruit and cereals. I fancy that, taken as a whole, it would be difficult to find such another mixture of good workmanship and bad taste as is shown in these two vases. Their price is \$8,750.

THE GERMAN CERAMICS.

ARTISTIC POTTERY AND PORCELAIN FROM THE
ROYAL PORCELAIN WORKS — BEAUTIFUL DESIGNS.

PHILADELPHIA, June 9.—The German exhibit is excellent, but with the exception of some mosaic tiles—the one contribution from the great establishment of Villeroy & Boch—and some excellent earthenware pitchers, in blue enamel, after antique patterns, by Hanke Reinhold, the only display of artistic pottery and porcelain is from the Royal Porcelain Works at Berlin. This manufactory doubtless represents in itself the best technical and artistic work in Prussia; nevertheless one would have preferred seeing examples of the work of the numerous smaller factories that are scattered over the kingdom rather than this collection, fine as it is. The Royal Porcelain Works were established at Berlin, in 1763, by Frederick II. buying the Berlin porcelain manufactory established by Wegeley in 1750, and placing Meissen workmen there whom he had brought back with him from his occupation of Saxony. These men were acquainted with Böttcher's discovery, made some 50 years before, and under royal patronage the new works soon became a center for the production of hard porcelain, and to-day the Berlin fabric ranks with the first in Europe. The exhibit sent to this country consists chiefly of the finer sorts of vases and decorated ornamental ware in porcelain and imitations of majolica, with several sets of table service of good quality, and a few examples of painting on large porcelain plaques. The exhibit is displayed to advantage against a crimson screen occupying the south-western quadrant of the rotunda, and the richness in color and form of the various articles makes this show the most attractive one of its kind in the Exhibition. It was impossible to estimate the number of pieces in this collection, as the counters are packed full of unsorted lots; but the vases alone on view exceed 100, and an idea of the value of the whole may be formed from the statement that the invoice is insured for \$150,000.

The attention is at once arrested by the central Victoria vase, which is upward of six feet in height. It is not, however, in one piece, but is built up of several pieces carefully concealed by ormolu moldings. The color of the body of the vase is excellent, and the picture of Aurora, after Guido Reni, is carefully painted, but the drawing is not good. The dragon handles and relieve ornamentation about the base are well gilt and chased. The price of this vase is \$6,500, gold. A few other of the larger vases are well painted, but they are not so as a rule, and in some the work is really poor. The figure drawing in nearly all could be improved. The next vase in importance is the Germania, standing in the center of the platform. The technique of this piece is beautiful, but neither in form nor in the designs of Germania cultivating the Arts and Sciences, after Von Heyden, did I see anything to admire. At the extremities of the rail are a pair of crater vases of the same shape, with decoration on a beautiful and remark-

ably even blue ground. The painting on the one is a spirited drawing of Schrödter's triumphal procession of King Wine, and the other a tamer rendering of Shinkel's Helios. One of the two tables back of these vases contains the Helios of Klöber, which is reproduced in a superior manner. The gilding and chasing on this latter piece is particularly fine. The other and larger table contains a well painted Poetry, after Raphael.

Another design after Klöber is the Music on the Victoria vase, to the right of the one first described. This piece, for delicacy of color and refinement in treatment, is one of the gems of the Exhibition. The exquisite blending of the blue tints and the color itself could hardly be surpassed. There is another vase matching this one in size and shape to the left of the central piece. It is in imitation of majolica, and is decorated with a poorly-drawn figure of Eurydice, after Dröeling. The Victoria shape is a favorite one in this display, and there are numerous examples of it in many sizes. The most noticeable example not yet mentioned is the tall white vase on the extreme right, with handles of pale blue and gilt. The other forms of vases are the graceful amphora, or vessels with a pointed base and double handles attached to a narrow neck; Urbino, with the curious twisted handles, and Chinese, Japanese, and Persian styles. Of the former there is a beautiful group of three to the left hand, above the Chinese vase, with medallions of the Muses and Arts on a white ground. Of the Persian ware there is a fine group midway of the screen to the right. The black enamel is pure and exceedingly brilliant, and the flower designs are particularly vigorous. A little further to the right is a set of Japanese vases also enameled in black, but lustrous. The decorations, especially, the figure drawings, are of the best work in the display. Of the Urbino vases, there are four in imitation majolica with figures of Galatea, and Thetis and Cupids after Raphael, forming part of the central group. To the left of them is another group of three in pure white biscuit with delicate drawings after Kaulbach of Venus and the Arts. The three pieces are models of symmetry and artistic work. Balancing them on the other side is a statuette of Antigone in very fine colored biscuit. Other examples of white biscuit are the huge flower stands in the niches, and the busts of the Emperor, Bismarck, and von Moltke. Below these vases are numberless small figures in rococo, for which this factory is famous, and jars and jugs painted with *genre* pictures and views of Berlin. Among them are arranged a number of large imitation majolica vases, notably, one of great size with Kaulbach's picture of the Emperor Otto in Charlemagne's Vault in the Cathedral at Aix-la-Chapelle. A vast oval wine cooler, with relief figures, masks, and animals, is the most noticeable of all the imitations of this ware. It is a strong and thoroughly artistic bit of design, the drawing of the figures is capital, and the luster is very nearly perfect. There is an oddly-shaped triangular basin, and a vase with children, copied from Rubens, and a curious ewer with mask mouth and grotesques in relief, on a triangular

stand of fine design and workmanship—all in majolica. The drawing of the children in the vase mentioned is particularly good.

On the screen are hung four porcelain plaques, the largest of which I judge to be almost 30 inches in height. This is a Madonna after Raphael. The other plaques, which are of different sizes, are pictures of the St. Agnes of Alonzo Cano, Murillo's St. Antonio, and the St. John the Evangelist of Carlo Dolce. From their position and high glaze it was quite impossible to get a good light on any one of the four,

but as far as I was able to judge, they seemed to possess a certain hard, German mannerism and labored finish that are displeasing. Beside them is a plateau in imitation majolica with a capital Europa, and all about the other parts of the screen are specimens of domestic porcelain, some of it painted à la Watteau, some perfectly plain, and other pieces again, decorated in the conventional and traditional manner of flower painting, a particular branch of art in which long practice has made them perfect.

VI.

EDUCATION.

THE CHILDREN OF THE WORLD.

WHAT IS DONE FOR THEM IN THE SCHOOLS OF VARIOUS NATIONS.

PHILADELPHIA, June 23.—The feature which interests a woman most in the great Exposition is probably its dramatic quality; the odd phases of human nature in every sort of national expression, the broad contrasts and subtle likenesses among them; the unexpected stage effects and their suggestions. Here, for instance, is an exhibit of tobacco by a Richmond firm, the black packers singing of how "Moses bade old Pharaoh, Let my people go;" and among the crowd of lookers-on a couple of Japanese Commissioners, amused and curious. The sons of Ham, with ages of Africa, fetish worship, Christian slavery, and emancipation behind them, singing the song of freedom of ancient Egypt to men of a race as ancient as that of Egypt, just wakened from their isolation of centuries; and that in a house full of machinery in Philadelphia. All of them wearing Yankee hats and trousers! Or, here is a Swedish baby, in its cradle, dead; the little black coffin standing ready, while father and nurse and old priest look pityingly down at the mother kneeling over it, her face hidden. A gray-haired Templar with the red cross on his New-York hat stands and watches her too, and a half-dozen women from Ohio with Scotch Presbyterian faces, and a Dakota Indian who is a student in some Philadelphia school; and as they pass on they look at marbles and silks with altered faces and dimmer eyes, thinking perhaps of some child whom they had known that also is dead.

These broken hints of the great drama of human life mean more to the women visitors than do the Corliss engine and the manufacturing exhibits. For the same reasons one finds more women than men in the educational departments. Artists and literary and scientific people go through the buildings, examining this or that school of painting or system of agriculture or manufacture, in order to know just what the present status of their Japanese or French or Norwegian brother is in civilization. But a woman with children of her own is apt to think of that other little boy in Sweden or Africa or Egypt,

and to inquire what chances are set before him, how he is helped or hindered by his country, and how far his training for work in life will correspond with that of her own Tom or Charley. With some such womanish curiosity, I confess, I searched the buildings of the Exhibition to find some signal or token from the children of the world, and before night it seemed as if a great many little hands had touched mine in all quarters of the world.

I set down my impressions in a very unsystematic, desultory fashion, probably; but the facts as far as they go are, I believe, correct. Curiosity, like philanthropy, is apt to begin furthest from home. I went first to Japan. The dark, nervous little men in their faultless business suits, whose mild, sincere faces meet one at every turn, are in fact the riddle of the Exhibition, which every new-comer reads in his own way. There is usually a gaping crowd about the railings of their office, wondering to see "the heathen acting just like human beings." The average country-bred American grudges the assent which he gives to heathen excellence, of any sort, in the Exhibition. Even the artistic and mechanical skill of the Japanese somehow runs counter to the teachings of his geography; and when he hears of the indomitable energy with which, since they were admitted into the family of nations, they have appropriated the best ideas of each, he feels uneasily that some subtle attack is being made on his religion. But even he, after a day or two, goes away with a lingering desire to give them the right hand of fellowship. A people among whom 230 princes from sheer love of country have voluntarily surrendered at once regal power and income, and a rank held by their houses for 2,000 years, is worth study by Americans just now.

METHODS OF THE JAPANESE.

Order is certainly Japan's first law. They carry the nicety and integrity of their handicraft into every higher matter. Their presentation of their educational system, and of the training of the little mild-eyed, quick-witted children, is detailed and accurate beyond that of any other nation excepting Sweden. All the appliances which Japan brings to bear on her little children, to lift them to an English

or American level, are here, from the code of rules which govern the Mombusho, or supreme Bureau of Education, down to the brilliant-colored primers for the babies, with the printed word cow and the real brindle bestie it.

The Mombusho, a MS. pamphlet informs us, is an office for administering the educational affairs of the whole empire. The Minister-General of Instruction is assisted by vice-ministers and inspectors. He has absolute power in appointing or discharging all officials of second grade, and his advice is usually followed with regard to those of the rank next his own. It is also his duty to establish systems of education of all kinds whatever; according to his own judgment to improve the educational code, when he thinks it necessary; to reorganize school districts, control local questions, raise funds, and publish educational information. After this czar of an executive officer come other authorities graded in rank, ministers, inspectors, &c.; wise-headed and clean-handed men, let us hope, as so much power is vested in them. The money for the support of the schools is raised by taxation. The amount in the first year of the establishment of public schools (1871) was nearly \$500,000, which sum has steadily increased until now. Education is not everywhere compulsory, although in some districts local laws require it to be so.

Upon the wall I found a large map of the entire Empire as an educational field, with the schools graded from primary upward; the primary, as one of the Japanese Commissioners explained, correspond to our public schools; the second grade to our high schools or smaller colleges; the universities, in aim at least, to European universities. There was a school for women, he added, with as much of a show of enthusiasm as an Asiatic could venture upon, in Tokio, which would take rank with Vassar College. In Tokio, also, as I found from a manuscript engrossed in English and Japanese, were large schools solely for instruction in foreign languages; in one, Gaikoka-Gogakko, French, English, German, Russian, and Chinese were taught; in another English alone, "as of supreme importance." Two hundred and ninety boys study here the language which they learn to handle so easily and effectively. The Japanese, indeed, whose own tongue is soft and liquid as the Italian, appear to be as facile linguists as the Poles. They learn, however, no Latin and no Greek. Girls and boys study together in the lower schools, but they are separated in the upper, the shrewd Japanese looking at human nature, not by the light of modern theory, but of mother wit.

A solid square at the back of the department over which floated the purple flag of the Empire was filled with tables and cases containing all the machinery for driving home ideas into the children's minds. It was as if a door was opened into one of the actual schools. Rows upon rows of books, into which it was not of the least use to peep; one must take their perpendicular lines of hieroglyphics on trust, or on the Commissioner's assurance that they adopted the best-known systems of teaching in them; "the English methods in science, the Ger-

man in languages;" cases filled with articulated skeletons and stuffed animals; other cases of pressed plants, leaves, &c.; the child could not raise its eye to the walls of the school-room without insensibly learning something of botany and natural history. The whole Kindergarten system was in use, with an odd Asiatic flavor added to Froebel; a gymnasium, slates, school library; and to bring the little pagans as it were next door to our own boys and girls, the weekly and monthly report of several schools. There could one read how Lohamo, just like Bob and Tom, ranked low in Geography, and was weak in Analytical Logic; but that his Style was good and Narration (whatever that may be) excellent. There are some veritable compositions, too, in which we read how *un jeune enfant qui allait au collège* had got into the worst kind of scrapes; or how the little writer "*war im 1865, in Tokio geboren.*" Some little chaps have written in English and added queer, childish biographical sketches of themselves. To make them still more real to us there are pictures of them at work, with their maps and slates, the girls squatted on mats on the floor; the boys in their flat caps and yellow gowns going through some kind of drill.

There is an abacus or counting instrument of movable wooden buttons on wires, differing little in appearance from that in use in American or European kindergartens. The Japanese, however, use it in their daily life. The Commissioner told me that all the accounts in their office were kept by it, and that "although he had of late years studied arithmetic, and even the higher mathematics, by aid of the written figures, such as we use, he still preferred the abacus (or in Japanese, soro-ban) as a quicker and simpler and more accurate method." A doubting Bostonian who was present challenged him to a trial of the two systems. Somebody called off large sums running up to billions, which the American wrote down and added in the usual way, while the swift, nervous fingers of the Commissioner flew over the wires. There was something very hearty and cordial in the way in which the eager crowd took part with the foreigner, rejoicing when, as a bystander said, he won by several lengths. Difficult sums in the first four rules resulted in victory for the soro-ban; and I believe it can be used in any mathematical calculation.

As I left the department the Commissioner detained me to say that "five years ago the Government of Japan had found it necessary to send young men and women to Europe and America to receive a full education. Now," with a good deal of quiet, pardonable pride, "it was not necessary; Japan had schools of the highest grade, equal to those of any other country." He acknowledged, however, that the lower orders were no more anxious to embrace the opportunities offered them than are the same class in our own country; but the newspapers were rapidly influencing public opinion. I went away very hopeful for the future of little Lokamo and his scarlet-capped playmates. They do, in truth, belong to the Land of the Rising Sun.

SWEDISH PRIMARY SCHOOLS.

Crossing the great avenue I passed under flutter-

ing blue and yellow banners into the Kingdom of Sweden, where, near a formidable array of gun carriages and armed men, soldiers of the great Gustavus and of the present Varfväde, are the contributions of the young men and women of her great technical schools. It is not young men or women that I am in search of just now, however, but the little Tots, boys and girls, the shabbily clothed Lokamos and Toms under their other names in hill villages and pine forests. What motherly care does their country take of them! It was Charles XIV., born himself a poor lad, that first, I believe, convinced Sweden that her poor children were the wards of the nation. What she does for them she has tried to show in a school-house built on a grassy slope of Lansdowne. It is a solid house of pine wood, 60x36 feet and 25 feet high, finished as carefully as much of our cabinet work. I found there Dr. C. J. Meyerberg, one of the first Government school inspectors of Sweden, who certainly seemed to care as much for the shabby little children as any woman could do, and who poured forth information and statistics quite beyond any woman's power to carry away. On his desk were dozens of ordinary copy books written and sent over by the identical little babies of whom I was in search. Their names were on the backs. Olga Johannssen, Karl Bund, &c.; I held them in my hand as he talked—they made the statistics real. When he told me that 85 per cent of all the children in Sweden went to the national schools, it was not a percentage I saw at all, but Olga and Karl in their coarse shoes and patched jackets trotting along the same road upward as the nobleman's son, and sitting on the bench beside him. Olga's father is a miner, Karl's a peasant. They live upon black bread and milk; meat is a luxury for yearly holidays. The whole family of either will not probably own \$50 in the year. What chance would these little ones have to become anything better than mere beasts of burden if their country was not a mother to them? As it is, their fathers are compelled to send them to school before they are nine years old. If the miner or peasant tries to keep Olga or Karl at home, or at work, he is summoned before the clergyman (an authority of reverence and power in Sweden of which an American has but vague conception.) A reprimand is generally sufficient to bring the man to his senses, but if that will not do he is called before the Board of Education, of which the clergyman is always President; if that fails, the State has a right to take the children, educate them, and put the parents in the workhouse. Such extreme cases are very rare, as the Swede submits himself more readily to his pastors and masters than his Western brother. If he is too poor to clothe his child decently the State bears the expense of making him fit for school.

Olga and Karl being then ready to begin, a school is sure to be found near at hand, there being a Stationary (Fasta) school in every parish if possible; or, when the parish is poor or sparsely settled, an Ambulatory (Flyttanda) school. Infants' schools being of both kinds. The school-house, if built

since 1865, will correspond in appearance and construction with that at the Exhibition, though perhaps it will not be finished with so much care. But the shape, ventilation, light, appliances for teaching, are all now prescribed by law. Many of the old buildings in use before 1865 still remain, and are much inferior to this, while the city school buildings are of course much more costly and spacious.

Olga and Karl having reached the picturesque school-house, leave their coats and caps in a hall, and find themselves in one of two rooms, with stationary desks and seats which science has taken care shall give the proper support to their little backs. It is warmed by a porcelain stove, and thoroughly lighted and ventilated. On the walls are maps of Sweden, showing her mountains, her water surface, productions, industrial interests, mines, etc. There are pictures of the people cutting timber, mining, fishing, hunting the wild boar. The child learns insensibly in an hour much of the world outside of his village, the resources of his country, and lives of his countrymen, and that without a spoken word. There is an abacus very like that of the Japanese, sheets of pressed plants, stuffed animals, globes, plenty of books of reference, and a harmonium. The first fact which strikes an American on entering these rooms is the extreme cheapness of the machinery of education, globes, pens, etc., being reduced to a nominal price; and second, the marked contrast to our own bare, sullen-looking school-rooms.

The upper story of the house and two rooms below are given to the master or mistress as a dwelling. He has besides fodder for a cow, a patch of ground where he teaches the children gardening, and \$150 per annum, which, with the difference in the cost of living, would be worth about \$500 in this country. This is the least payment. In some districts the salary is much more liberal. In this house the little beginners learn, first, religion; then to read and write, which usually takes one-third the time required here, owing to the phonographic structure of the language. If they are Dissenters, Catholics, or Jews, they are forbidden religious instruction, unless they apply for it. Afterward, geography, history, &c., up to chemistry, physics, and military drill, which is obligatory on the Swedish boy. How much or how thoroughly this course is taught depends, as everywhere else, on the teacher, who must, however, be certified as having passed three years at a normal school. In the afternoon Karl learns carpentering, cabinet-making, boot-making, or drawing, while Olga is taught to sew, knit, or draw, if she have any artistic ability. They must remain at school until ready for confirmation and communion, the minimum age of leaving being 12. Until they can read or write they are not allowed to marry, to bear arms, or to give evidence. The teachers are pensioned after 30 years of service, or 10 if invalided, and the widow of a teacher receives a pension at his death. If the teacher be a woman, her husband has his pension too, which is fair enough. In Stockholm, the women teachers are to the men as four to

one. In 1873, 218,616 children were in the infant schools.

Olga and Karl, if they prove as good scholars as their copy-books promise, will pass into the higher primary schools, in which in 1873 were 389,082 children. Their future course depends on themselves. If they have industry, brain-power, or mechanical skill the country stands ready to help them at every step. Should Olga desire to become a teacher in a school-house such as this, she enters a normal school for three years and is fitted for her work gratuitously. There is, too, a fund for her entire support for this time if she needs it. If she choose domestic work, there are free industrial schools for the training of servants, seamstresses, etc.

SWEDISH TECHNICAL SCHOOLS.

Karl, if he have a nimble brain or ambition to rise in his peculiar trade or handicraft, will go into the higher national schools, the aim of which is to develop both mind and body. On the coast he will be taught navigation; inland, farming; in the villages, his own craft, whatever it may be. He learns here, too, the art of law-making, citizenship and its duties, surveying, and chemistry. He pays if he can; if not, the door is still wide open. These schools, founded by noblemen for the benefit of laboring men, are a peculiar feature in Swedish educational efforts which Americans have nothing to parallel. Many of the workmen who hold places in the Lower Chamber, at Stockholm, owe their places in life to their training here. The majority of pupils are men of from 20 to 40 years of age. Totally apart from these are the elementary schools, in which religion, ancient and modern languages, science, philosophy, and the higher mathematics are taught. The course of study usually requires nine years. After the elementary schools come the two universities—Upsala and Lund. Should Karl pass through this course of higher education and graduate at one of the universities, he can obtain a position of teacher in an elementary school with a salary of \$500, and an addition every five years of \$150 until the sum reaches \$1,500, with which, said Dr. Meyerberg, he can live, out of Stockholm, with great comfort.

Outside of these grammar schools and universities there are five technical and two great polytechnic schools. I went back to the Main Building to look again at the exhibit made by the technical and industrial schools. I wanted to see what Karl would probably do if he turned his attention that way, for Karl had grown by this time into quite a real person—a little, far-away kinsman. The display indicated a wide range of careers and opportunities for both men and women. There were wood-carving, designing on the block, lithography, drawing from the casts and life, molding in clay, cabinet work, designing for wall-paper, tiles, and carpets, repoussé work in silver, and hints, slight but sufficient, of almost every mechanical industry. The industrial schools, we are told, are crowded; last year there were 2,523 applicants for admission, of which 788 were women. Experts can tell you better than I how their work offered for inspection was done; the great fact to me was that they had the chance to do it.

No child sound of body and mind in Sweden passes over the age of 14 without having been taught to read and write, and, as far as it is possible to teach them, to serve God; and every boy or girl after that age is aided to the fullest extent by the Government in acquiring a trade or profession, if they wish for such aid. In short, the significant hint which

Sweden sends to America on her birthday is not to be found in any work of art or manufacture, but in Olga and Karl, the children, it may be, of pauper-nurtured by their country into the faithful, well-trained teacher and the skilled mechanic and intelligent legislator.

R. H. D.

GOVERNMENT SCHOOLS.

THE METHOD OF INSTRUCTION IN VARIOUS NATIONS.

PHILADELPHIA, July 6.—The school-house from Belgium, appropriately enough, is almost covered from sight by the manufactures which she sends. It is a large structure too, of three rooms, in the Main Building, but the outer walls are so draped with cloths and carpets that nobody would know it was there if he did not happen to observe the little carved door of entrance. Ever since the 9th century, when old Bras de Fer brought skilled workmen into Flanders, the poorer classes living on the banks of the Scheldt have been better known to the world by their lace and damask than by any systematic care which they took of the brains of their children.

Indeed, as long as the little country of Belgium was tossed about between France, Spain, Burgundy, and Austria, there was little to arouse national ambition or cohesive public effort of any sort. Under whatever king the penniless little Hans and Katrina were born they were sure to be taught to weave cloth or lace, and move as pleased God or suited circumstances. With no national tongue, and a jargon about them of half-a-dozen alien dialects, common schools for their own use became almost an impossibility. Under the control of the Dutch the children of laboring classes had no better chance than under the Flemish Counts. When Belgium attained her independence, however, Hans and Katrina became an absorbing object of popular interest, and very soon the chief bone of contention between the Catholic and Liberal leaders, until the difficulty now is not the lack of schools, but into which they shall be dragged. On one side are universities, high schools, and gymnasia under strict church discipline; on the other the educational system, controlled by the State—universities, schools of architecture and mining, 10 national, classical, and commercial, 50 Ecoles moyennes, and the host of primary schools. The question of Catholic and Protestant influence in these training houses of the next generation underlies much of the present political disturbance in the little kingdom. The primary school, sent to us as a specimen, is admirable in design. There is a lavatory; a gymnasium, completely furnished; a model school-room, well lighted and warmed and ventilated by a system by means of which the air in each apartment is entirely renewed every half hour. New-York and Philadelphia School Commissioners could learn much here which they do not know. The desks and seats are graduated in height to suit big, clumsy Hans or the "little mademoiselles of three years," as an enthusiastic young Belgian explained, showing us at the same time how the desk-lid could be arranged as a writing-stand, opened to display a permanent slate, or

turned over to show a cushion for working lace (still lace, Katrina!), or laid flat as a dining-table on which is placed the bread and *bouillon*, which "*les bonnes sœurs*" furnish to their pupils if they are hungry and poor. The good sisters, or the Protestant teachers of these primary schools, use the same abacus as that which we found in the Swedish Department, and all of Froebel's higher apparatus. Here, too, was every means of instruction which appeals to the eye—pictures, mechanical instruments, stuffed birds and beasts, geometrical blocks, sheets of folded paper on which were shown the raw cotton, the thread, the muslin, the mulberry leaf and worm, the cocoon, the thread, and a bit of brocade or velvet—the whole transmigrations of a hundred manufactures were learned by a glance.

The Netherlands, near by, send us exhibits of their fortifications, bridges, and the mechanical means by which they have conquered their enemy, the sea. In accord with this they offer principally the work of their industrial and artisans' schools, especially one of the latter kind at Rotterdam, "where boys of from 12 to 15 are trained in theory and practice to become clever artisans." This farmer's school is, in fact, a series of actual workshops where boys are taught to be skillful smiths, carpenters, joiners, wood-carvers, masons, &c., their work being either for use in the schools or for the market. They are also taught geography, drawing, arithmetic, and the higher mathematics. Each parish has its elementary public school, from which religious teaching is excluded; but there are innumerable private schools under sectarian influence, besides the large atheneums and universities.

SWISS SCHOOLS.

Switzerland sends a complete survey in miniature of the working of her school system. Every child between 5 and 8 is compelled to attend school. Every canton sends the accounts and reports of its Board of Education, its books, maps, and plans; and after these come accounts of the kindergartens, model desks and seats, almost countless systems of instruction, devised by the clear-headed Swiss for their youngsters; the drawings of pupils, and full reports of the work of the blind and deaf and dumb in their schools. There are also some curious *Arbeits-Alben*—great blank books in which are inserted, instead of pictures, specimens of all kinds of needle-work, from tiny socks for pink-toed babies to elaborately finished trousers and dresses. There are, too, full statistics concerning the great universities and academies to which so many American students find their way. There was one sheet of paper, however, which I remember better than all the ponderous statistics—a letter from a little blind girl in one of the schools, in which she childishly "sends her good wishes for the great Exhibition of the world in Philadelphia, and hopes it may succeed." Surely some kind soul will send a greeting back to the little creature sitting in darkness, and so carry a glimpse of the brightness of the great Exhibition to her.

Great Britain has made no representation of her educational system, at least I can find none. The colonies, however, compel attention to their work

for their children. Our neighbors of Ontario, by the care and labor which they have given to this department, show how much more important they hold the manufacture of wives and women than of fabrics or pottery. Education in that province is compulsory, the parents of every child between the ages of 7 and 12, who is not at school, being subject to a fine of \$1 per month, or imprisonment if the fine is not paid. Catholic rate-payers can elect to send their children to the separate instead of public schools; he is taxed for their support, and is exempted from public school rates. Then sectarian schools receive their share of the legislative grant, and are under control of the educational department. The prescribed course of study in the public schools differs but slightly from our own, the studies ranging from reading and spelling up to civil government, physiology, and the higher mathematics. The high schools furnish a higher English course with the classics and modern English languages. There are Normal schools for the training of teachers, and, outside of the jurisdiction of the Educational Bureau, colleges founded upon the model of the great public schools of England, and universities. Both colleges and universities have been endowed with large grants of public lands, the annual income amounting to from \$12,000 to \$55,000. Institutions for the blind, the deaf and dumb, mechanics and agricultural schools are all aided or supported by the liberal Provincial Government. There are in the Main Building several models ingeniously built of the principal colleges and schools. There is also a more complete display of the apparatus of teaching than is to be found elsewhere, from Froebel's balls and primers for the babies to costly scientific instruments, colored casts and manikins for advanced classes in physiology, dissected steam-engines, and raised maps for the use of the blind. Dr. May of the Educational Department of Toronto is in charge of this detailed and remarkable display, which assumes pertinency and meaning in the light of his statement that every article was furnished by the Provincial Government at half-price to the schools, of which price a moiety is paid by the department; thus for an American book, costing here \$1, the scholar in Toronto pays only about 35 cents.

When I came to the Island of Jamaica, the Commissioner regretted that the school exhibits had not yet arrived. The British Government, he stated, spend about \$100,000 per annum on schools; the attendance of the children is not compulsory, but the blacks are eager to learn. Some of these schools are mixed, others wholly of one color. Many of the blacks go through the higher English curriculum, with Latin, and afterward fit themselves for clergymen, physicians, etc.

At the Cape of Good Hope the little natives have a fair chance enough. Old Mother England gives to schools with two English teachers \$1,000 per annum, more or less being given, according to the grade of the school. Seventy-five dollars per annum is paid to every native boy willing to be made a blacksmith, carpenter, tailor, shoe or wagon-maker;

\$50 to every native girl apprenticed for one year to household work. Aid is given to every mission-school which succeeds in drawing in the natives.

Norway sends a little school-room too, oddly natural and life-like. Here are the graduated seats and the inkstands and the copy-books of the anxious Kathenkas and Johanns, with a mark of a little inky thumb on one. There is the teacher's raised desk and a bunch of wintry blossoms on it, and on the wall photographs of the mountain and fiords which she sees outside of the windows whenever she raises her weary eyes. From Mr. Gade's published account we learn that education in Norway is in a measure compulsory, children being required to attend school nine or twelve weeks in the year, until they can read, write, and are instructed in religion enough for confirmation. In 1867, 32,682 children were in the common schools receiving instruction in reading, geography, history, natural history, drawing, and sewing. All these schools are under the supervision of the Church. They are filled by the children of the poor and middle classes, wealthier parents preferring private schools. Above the primary are public and high schools, classic, combined Latin and high civic, in which the English and old Norse tongues are made obligatory studies; peasants' high schools, where peasants in Winter receive instruction in history, geography, and religion. There are also a free university and many asylums for little children, agricultural, nautical, naval, and military academies.

HAWAIIAN SCHOOLS.

There is a small apartment on the right walled apart from the rest of the Main Building by strange tropical birds and beasts, coronets and hats of waving straw, masses of coral, and savage fragments of lava and burned earth. It is the Hawaiian inclosure. Sitting down in it and looking over the little yellow guide-book or almanac you cannot believe yourself in Philadelphia; you surely have reached Poe's nightmare "region volcanic, where the scoriac rivers do roll." There is a smell of fire you fancy on even the every day record of the newspaper, a shadow of waiting Death behind the most commonplace objects. To-day we read in the almanac "His Royal Highness Lunailo abolishes the Army." Yesterday "an earthquake shook Hawaii," with tidal wave and great loss of life. To-morrow Mauna Loa, the largest volcano in the world, will belch forth its stream of fire and blot out a few fishing villages or form a gigantic promontory into the sea. As for schools, one would look for them here no more than on the slippery edge of Dante's final abyss. But you are handed a regular Palapala Hoiko, a Report of the Educational Board, published in the ninth year of His Majesty Kamehameha V., as systematic as if it belonged to a Massachusetts village. We learn here

that four years ago there were 202 common schools with an attendance of 6,274 pupils, chiefly Hawaiians, 3 boarding and 5 day-schools, supported by Government, with 697 pupils; 17 seminaries, colleges, &c., for whites, natives, and Chinese, receiving aid from the Board, 641 pupils, and 22 private schools with 8,287 pupils. There is, to be sure, occasional mention of districts suddenly left without school-houses or scholars through a flow of lava or the destruction of a teacher's dwelling by an earthquake, but otherwise the record is promising and commonplace as any ward school report. The little Hawaiians on the crater's edge evidently thumb their spelling-books or whine over their copies just as do Tom and Kitty in the next street.

In fact the spectacle of these countless multitudes of children at work all over the world with their slates and their patented machinery for learning, begins to be oppressive. The very vastness and propriety of it make it monotonous as a nightmare. A philanthropist, notebook in hand, is singing psalms of joy over this startling good news from Hawaii, good news from all parts of the world. He begs us all to go up a flight of stairs to the great Educational Department of the United States, where every State and Territory sends in reports of its separate systems, its enormous aggregate of flourishing schools. But not many visitors go up stairs. There must be a limit. The whole world seems to be turning into a school-house scientifically ventilated and lighted, with model desks and maps and object cards.

Here is a corner, dusky in the growing shadows of the gloomy afternoon, where no such thing is to be found. On a heavy archway overhead: "The oldest nation of the earth sends her morning greeting to the youngest."

We are in the midst of strange armor and housings of gold; we sit down by the beasts and birds which Pharaoh knew, and look into the straight-lidded eyes of gods older than Pharaoh, their faces full of an eternal patience. No danger here of Bureaus of Education or model desks.

A Mohammedan in scarlet fez opens an album of drawings from the Art School of Cairo. Many admirable, more execrable, beyond words.

"Schools in Egypt? Polytechnic, yes. Industrial? No," with a scornful curl of the lip.

No doubt there are schools in Egypt. Kindergartens and normal, and all the rest of the list, as well as gas and newspapers, and a reforming Khedive, in Parisian coat and trousers, a tramway in one hand and a model asylum in the other. But the Commissioner gives no information, and I do not know. I am too glad to sit down by the crocodiles beside Rameses, and believe that in this ancient realm at least there is twilight and idleness and quiet. It is near sundown, too, and school is out for one day all over the world.

R. H. D.

VII.

WOMAN'S WORK.

THE PAVILION.

A WOMAN'S VIEW OF WOMAN'S WORK AT THE EXHIBITION.

PHILADELPHIA, July 28.—The Woman's Pavilion is an object of peculiar interest because it is woman's. To view this department appreciatingly it is necessary to understand, first, that no claim is made to a full representative exhibit; second, that this is the first attempt of its kind ever made. The greatness of the undertaking should be its own explanation of much of the incoherence and incompleteness which mar this beginning. Unfortunately the plan of the building is not well adapted to its purpose, nor is the arrangement and distribution of its exhibits to the best advantage. For the architectural deficiencies the ladies are not responsible, but they might surely have put their house to rights in a much more effective manner.

The center of the building at the intersection of the nave and transept is occupied by a fountain, tastefully bordered with masses of flowers, while immediately surrounding, in a much wider circle, is a large display of fancy goods and ornamental needlework. This central group it is that almost invariably first strikes the stranger's eye. At whichever of the several doors he enters, the center of the building is the conspicuous point of view, and, since first impressions are proverbially strongest, it is not surprising that the old proverb that woman's sphere is bounded by laces and flowers is thus freshly confirmed. Those who at most are prepared to award only a reluctant approval of what they see are satisfied with this first and superficial view. Those interested beyond a mere cursory examination of the building, however, will find much that is creditable to a first exhibit, with here and there a few articles worthy of special note. One of these, in the Department of Science, is a complete *Materia Medica*, from the Women's Medical College of Philadelphia, prepared with a high degree of scientific accuracy. It is a fine display of pharmaceutical talent, and is a silent testimony more eloquent than words could possibly be toward demonstrating the capacity of woman to execute this important and difficult branch of scientific labor.

A HEAVY TASK FOR WOMAN.

A point which should not be passed over in speaking of this exhibit is the fact that except for the ladies of the commission the display could not have been made. The expense of the preparation was too great to be undertaken by the college alone, and had not the Executive Committee supplied the pecuniary means the Medical College must have remained unrepresented. A want of means has been one great drawback in filling up the Woman's Department generally. The poverty of exhibit in some branches of industry, or, as in certain cases, an entire failure to be represented at all, is due greatly to the fact that women of limited resources make up the ma-

jority of those who have achieved any success in either science or art. The ladies of the commission have consequently been obliged to aid individuals in order to insure them a fair representation.

This, indeed, is one of the most praiseworthy features of the department, and shows the earnest, indefatigable spirit animating all connected with it. None of the other departments have had its difficulties to contend with. The various other buildings which stand as its rivals and objects of reflecting contrast were, from their very nature, lifted above the petty annoyances and practical limitations experienced in the Pavilion from the beginning. They had simply to allot space and prescribe rules for exhibitors, confident that each separate individual would be equal to the task of putting in a creditable appearance. Men have been so long and so thoroughly drilled in the science of business that they are seldom at a loss to make the best of an opportunity. With women, however, it is different. Being almost entirely without experience in the practical business world, and, as in a majority of cases, really unconscious of their own practical powers, they waited the initiatory step. In the Woman's Department the allotment of space was only a beginning, the preliminary part of the committee's responsibility. To insure a display worthy of the undertaking, they had not only to interest individuals, to encourage them to come forward, but, as already shown in the case of the *Materia Medica*, often to supply the means.

This fact might be regarded as evidence that the enterprise was a little too great for its subject—in other words, that woman's work was not yet ready to avail itself liberally of the grand opportunity afforded it to enter the field of international competition. With a commendable ambition, the women of Philadelphia aimed high, and in everything they have undertaken within the range of possibility they have succeeded nobly. But the grand role which they chose in entering the lists with their brother competitors was bound in the nature of things to prove too great for their powers. Note, for instance, the exhibit sent by the ladies of the Empire State. Through the unwearying efforts of Mrs. Gillespie, the women of New-York were aroused to the importance of making some worthy contribution to the exhibits of the Woman's Pavilion, and with spirits filled with enthusiasm they set out to raise the funds requisite for that purpose. With what characteristic energy they worked; but what was the sequel of their success? The raising of the money was, indeed, easy enough. It was only when they held the \$5,000 in hand that the puzzling question began, and the manner of its solution showed how difficult and really impossible of worthy solution it was. The ladies of the Empire City and State sent absolutely nothing except two flags—\$5,000 worth of silk, embroidery, and fringe

to be suspended beneath the bare rafters of the Woman's Pavilion, of no practical use, and surely of little meaning. It is clear that the representative women of New-York were not ready to bear any appropriate part in so grand an occasion. They have actually allowed themselves to be eclipsed by the Royal fingers of England.

NEEDLEWORK.

Queen Victoria's response to the invitation of her American sisters was at least substantial. The English cases display a fine table napkin woven by the Queen's own hands, together with etchings by herself, some embroidery by her daughters, and samples of work from the Royal School of Needlework. These specimens of Royal handiwork are peculiarly valuable to us; first, as showing the substantial sturdy common sense of our mother country; second, as furnishing an opportunity for comparison with the same class of work at home. One sees in these exhibits traces of that strong sentiment of practicality which characterizes old England, and gives a tone of gravity even to the princes of her realm.

After looking upon the tasteful designs, the delicacy, and the elegance of the American needlework, however, the English display has very little interest beyond the curiosity awakened by its origin. America has great reason to be proud of her display in needlework, if indeed there is any reason for pride in a labor that has so taxed woman's vitality and dwarfed her mental development from time immemorial with no commensurate return. A young woman from Alabama shows the result of two years' labor in a rich crocheted bed-quilt containing 7,000 skeins of silk, upon the beauties and difficulties of which she dilates with as much seriousness as if she had executed a masterpiece of art. True, the work is such as few would have the courage to undertake; but what, after all, is the result of her two years of painstaking application? Simply a bed-quilt that a machine ought to have made much better. Another woman, a daughter of Italy, has attempted to imitate India ink drawings with admirable success. Still, when you have footed up the cost of her achievement in time and nerve force, is it presumptuous to ask, "Did it pay?" Viewed in the light of cold, practical, masculine analysis, it certainly did not; and the criticism which such displays provoke from the unsympathizing, unappreciative visitor may be largely instrumental in widening the conceptions of woman regarding the value of time. Yet, even while deploring the waste, one can but admire the talent and almost heroic patience displayed in some of these works.

The single good point to be made in speaking of this class of exhibits is to show the degree of superiority of our American work over most others of the same kind. Of the exquisite productions from the hands of the professional lace makers of the Old World it is needless to speak. With them we shall not venture to institute comparisons. But in all amateur work, especially in crochet and embroidery, the daughters of the jubilant New World have snatched the palm. The airiness, grace, and origi-

nality displayed in their work is a striking exhibition of the influence of fresh thought and sentiment developed in a new and democratic atmosphere. Beside it England's work is stereotyped, conventional, and without either taste or delicacy. It is a simple repetition of the same coloring and design, copied over and over by successive generations for centuries. There must be in the Royal School of Embroidery a standard of perfection never departed from. In our democratic school, where the only standard is excelsior, and every one is free to develop according to the bent of her peculiar genius, the fingers of genius speak for themselves most admirably.

CARVING.

The women of the West have come to the front bravely, particularly in wood carving and china painting. Of the exhibits from the Cincinnati School of Design too much can scarcely be said. The school is only two years old, and is yet able to make the most attractive display in the building. Among the larger pieces of furniture are several from the hands of Miss Agnes Pitman, daughter of the founder of the school. A large walnut *chiffonier* made by her is elaborately carved to represent the six flowering months of the year, and mounted in original metal work. A grand rosewood piano from an Ohio company also exhibits her work, and as a present to her from the company for the carving. An organ company adopted the same expedient of bringing their wares before the Centennial public. A black walnut instrument was forwarded to the school, to become the property of any lady who would carve it for the Exhibition. It is now owned by Miss Fannie Banks, and is an exquisite specimen of fine carving inlaid with ebony.

The crowning piece in this collection is a black walnut bedstead with ebony inlays carved by Hattie and Mary Johnston, and valued at \$500. It is literally covered with ornamentation, each part designed to embody a sentiment. At its foot the trumpet-flower runs over a trellis representing the porch of the young ladies' home; upon the sides trails the Virginia creeper, covering every particle of available space, and at the head hang bunches of lilies and poppies symbolizing the Sleep of Innocence, while two panels of polished slate, ornamented with closed morning glories, form the center. Miss Pitman exhibits several doors and mantels from her father's house, to illustrate the practical workings of her art, as well as the substantial uses to which it may be put.

The excellence which had won for this school such wide recognition is not limited to wood carving. For beauty of design and delicacy of execution their work in china decoration is very remarkable. Certainly a few more years of progress as rapid as that which has marked this beginning must result in the creation of a decorative school in our own country qualified to rank with those of the Old World. The results already achieved by the Cincinnati school give splendid promise for the future. This work opens to women a most congenial sphere of action, combining practical work and the useful with a true sentiment of the beautiful and artistic.

Massachusetts makes a very creditable display in the same *genre*, but she has not the youthful precocity to boast of which Ohio has, and is consequently less of a prodigy.

WORK IN WOOD.

A remarkable specimen of handiwork in wood is a set of three pieces, screen, table and organ, by Christina Olson of Sweden. This woman began as a young girl to manifest a decided talent in furniture manufacture. In her father's workshop she found her chief pleasure, and although discouraged in every way by her friends she succeeded at the age of 16 in making a bureau. Every opportunity after that found her devotedly at her work, until her father's death forced upon her the stern realities of the trade, with the necessity of supporting both herself and her mother. At the age of 20 she came to this country, and while employed at the drudgery of domestic service found sufficient spare time to make a side-board which excited the admiration and wonder of all who saw it. The only tools she had with which to execute her work were made by herself out of skirt-wire and other available material found about the house. The articles here exhibited are the product of four years' labor. They are made of various kinds of wood, laid together in a kind of mosaic, comprising in all some 3,000 pieces. They are really very beautiful, and, as illustrative of woman's power to overcome difficulties, constitute a most valuable acquisition to the Woman's Pavilion.

A little out of this line, but still an article of furniture, is the "combination desk" exhibited by Mrs. Stiles. This style of desk does not now appear for the first time in public, nor is its present exhibit limited to the Woman's Department. It is among the novelties of the Main Building. It has taken the highest prize at the American Institute Fair (being, by the way, the first work patented by women ever admitted to that institution), and is in practical use in many public reading-rooms. But as a representative work it deserves to be numbered among the objects of special interest. It is a curious instance of accidental invention, the inventor being herself unconscious of her possession until informed that she was entitled to a patent. It grew out of the necessity of adapting one small room to many purposes, and unites in a single piece of furniture, bearing the appearance of a cabinet when closed, a secretary, writing desk, reading table, drawing table, letter box, scrap receptacle, etc., all so ingeniously put together that every purpose is conveniently met without any one of the separate functions encroaching upon any other. When closed the desk occupies only 18 inches of space by 6 feet wide. Opened, it presents a double front capable of accommodating half a dozen persons at the same time, and spreads over a space of 7 by 6 feet. This beautiful piece of mechanical construction has brought to its inventor a great many complimentary notices and a prospective fortune—better than all! Its significance here, however, extends beyond the individual personally interested. It stands as a representative in a field not unfamiliar to the fair sex, though the want of opportunity which so frequently restrains women, together with that lack of appreciation resulting from her ignorance in practical operations, has often caused her invention to die with her, if it did not make her a victim of some quick-witted brain of the opposite sex who knew better than she the value of her possession.

OTHER FEATURES.

The present opportunity for showing her creative capacity brings to light a host of domestic improvements, as well as some of more general use, which

abundantly prove the justice of her claim to inventive genius. Mrs. Mountain's life-preserving mattress has been found so efficient in its way that the Board of United States Supervising Inspectors of Steamboats have adopted it for general use as an auxiliary life-saving appliance.

Another invention is the Coston Telegraphic Night Signals, which, although not original with Mrs. Coston, owe to her their perfection and introduction into public use. Her husband died leaving her a rough chart of the idea, and it was not until after many fruitless experiments in combining the chemicals and other materials to be employed, with year after year of patient toil, that she was able to present the idea perfected to the world. She has now the gratification of seeing 300 sets of her night-signals distributed through the United States Navy, honored by Government approval. An exhibit of the invention is also made in the Government building.

It may be observed just here that the poverty of exhibit which appears in some of the departments of the Pavilion is owing to the fact that many women refused to have their work classified according to sex. Where they could afford to duplicate the article of exhibit it did very well to appear among their own sex; but in a choice of opportunities they much preferred to be classed according to the merits of their achievements. This, for instance, is very apparent in the fine art gallery. There may be found a few gems, but very few, and the first picture sold at the Exhibition, which was a woman's and brought \$1,000, did not hang in the Pavilion. The space devoted to Miss Hosmer's "Gates" is still vacant, and gives a bare appearance to that end of the building. But when these long-heralded "Gates" do appear, should they finally have the good fortune to arrive safely, they will, of course, form the crowning feature of the Art Department, and go far toward redeeming some of its deficiencies.

The chief feature of woman's Centennial work is the indefatigable, unflinching spirit which has run through her entire effort. He who pronounces the Woman's Department a failure has failed himself to catch its real meaning. It expresses the practical woman just as she is, with all her one-sided, limited development; her instinctive reachings, imperfect realizations, and accidental successes. It has been of inestimable value to her as showing the exact measure of her capacity as well as her points of deficiency. It has surely rendered it impossible ever again to impugn woman's practical ability. She has shown conclusively that she is able to carry forward successfully anything she chooses to undertake, from the raising of \$95,000 to aid her brothers in the dark, early days of Centennial preparation, to the erection and furnishing of her own industrial domain, managed entirely by herself, even to the function of engineer.

Miss Allison, the presiding genius of the engine-room, is perhaps a fair type of what may be expected in the future, when the ideal and artistic shall penetrate even to the engine-room. To the novelty seeker, Miss Allison's little brick engine-house and the kindergarten building are two of the most interesting features of the Pavilion.

VIII.

SCIENTIFIC FEATURES.

PRECIOUS STONES.

MINERALS SCATTERED ABOUT IN THE DIFFERENT BUILDINGS—RIVALRY BETWEEN THE EXHIBITORS OF CHOICE DIAMONDS—ORIGIN OF THE OPAL'S INTERNAL FIRE—RUSSIA'S GREAT DISPLAY—REAL CHARACTER OF THE MEXICAN ONYX.

PHILADELPHIA, Aug. 9.—Whatever else may with truth be said of the Centennial Exhibition, it is pre-eminently a bewildering display. Complete knowledge of its contents, even in special and limited fields, borders on the impossible. The other day a gentleman was asking Prof. Barnard of Columbia College (who is one of the Judges of Group XXV.—instruments of precision, research, etc.) whether he had examined one of the more notable curiosities. "Sir," replied the Professor, with an air of assumed severity, "I have been here several weeks; before I go home I hope to see the Exhibition; as yet I have not found time to see it." The difficulty is heightened by the system, or lack of system, of the display; by distribution through numerous buildings, and outside of some of them; by the absence of all means for ascertaining the whereabouts of any particular class of exhibits. Take, for instance, a single subject, such as mineralogy. To obtain a full notion—nay, even a fair one—of what is here shown under this head, the visitor must go through at least a dozen buildings, and, unless he is as fortunate as was the writer in securing the kind assistance of experts who have been over the ground, he will not even then find all that he is searching for. The display of minerals appears in spots all over the Main Building, in the two mineral annexes, in at least three or four State buildings, in some of the foreign buildings, in Machinery Hall and its three annexes; abundantly in the Government display, which includes the Smithsonian collections; in the Art Memorial Hall, and even in the vast Agricultural Building. Of all these structures, order reigns supreme in only one, the Government Building, where everything is arranged systematically. "They do these things better in France," the proverb says; at all events, there is promise of a better method in the programme for the coming French Exposition, according to which everything is to be in rectangular blocks, all one way being the exhibit of respective countries, all crossways the display of respective classes of subjects.

FEW OF THE COSTLIER JEWELS.

Stones make a good foundation; let us start with them. If we begin with precious stones we shall not be far wrong geologically, since they are generally found in the older strata: historically, too, we shall be quite as fortunate, since they are among the first things to be selected and preserved by the human race. The show of fine jewels here is much inferior to the display at the London, Paris, and Vienna Expositions. The sovereigns and nobility of Europe sent to its exhibitions their private collec-

tions, including the crown jewels of several countries. Each of the large diamonds, rubies, sapphires, emeralds, and pearls that are contained in royal and princely collections are already pretty well known to the world at large by frequent description, and by their histories in popular books of reference. There are models of them at our Exhibition. It is quite as well that none of the costly trophies have themselves been subjected to the risk of a voyage across the Atlantic for the sake of adding to the Philadelphia show. The crowned heads do not wish to part with their jewels; it would have been a pity to have filled republican bosoms with hopeless envy. The gems exhibited here are within the reach of American purses.

In antique precious stones and cameos the Castellani collection, exhibited in Memorial Hall, surpasses all others. The entire collection has been the work of many years in excavation, research, and purchase. The details of this collection have been very fully reviewed in recent letters to THE TRIBUNE, and will not require further description here. We may pass at once to the modern gems on exhibition.

DIAMONDS, RUBIES, SAPPHIRES, AND EMERALDS.

In the order of their value as precious stones, it may be new to some of our readers that large rubies rank higher than large diamonds. At a respectful distance from these come large sapphires and emeralds, which are of nearly equal value, though popular taste rather gives preference to the emerald. Italy sends the finest exhibit of rubies as "gems of commerce," i. e., cut and set; it includes a parure, of which the necklace of rubies and diamonds set in silver is valued at \$20,000. One French exhibitor has a fine display of these gems. Four American jewelers make the *pièce de resistance* in the way of jewels, in the center of the Main Building, Tiffany & Co. and Starr & Marcus of this city being easily first in the quadrilateral, which is completed by Bailey & Co. and Morgan & Headley of Philadelphia. I am afraid the gem men of this Exhibition have not a kindly feeling toward each other. I base this opinion upon a remark which I heard one of them make respecting a diamond necklace to a lady who was looking at it. "This," he said, "is the only real diamond necklace here. All the others are made up of yellow diamonds." Now, I believe the necklace in question is valued at \$80,000; I may be \$20,000 or so out of the way in this, and I had intended to ask for more precise figures as to these costly gems, but the remark I had just heard checked my inquiries, as I was not in search of misinformation. There is at least one necklace in the Exhibition fully worthy of comparison with that one in all respects. To make one of these fine necklaces, it is not sufficient to mount and string together a number of specimens of the precious stone. They are arranged in pairs in the

order of their sizes, the smallest at the ends, and with a large single one at the center. It is necessary to perfection that not only the sizes must be regularly graduated, but each pair must consist of stones that match in all particulars. It was the work of a year in ransacking the market to find the stones of a pearl necklace which one of the firms named exhibits. Of the more costly gems, the highest valued diamond in the Exhibition is priced at about \$15,000; there are perhaps half a dozen at values between \$5,000 and \$10,000, and a few single rubies, emeralds, and sapphires of similar worth. By far the largest display of sapphires, especially of uncut gems and remarkable specimens in the native rock, is in the Russian department of the Main Building, and will well repay close examination. There are certainly three very costly diamonds in the Brazilian exhibit—the largest is 20 carats—and several yellow ones, and there is an air of mystery about the guardianship and display of the more precious ones that possibly adds to their reputed value, and can only be fathomed by a visitor of leisure. The Orange Free State of South Africa shows in a corner of the Main Building many diamonds, mostly yellow, but exceedingly interesting in their crystalline forms. They are in many instances still buried in the matrix, which seems to be a kind of concrete, but not a solid bedded rock. In the exhibit from the Cape of Good Hope there is a case of diamonds in the rough, with a photograph showing the machinery and process for washing and extracting them. I asked the intelligent-looking person in charge whether he could give any notion of the total value of diamonds up to this time exported from South Africa. He replied with a solemnity that did credit to his bump of veneration, "Heaven only knows!"

PEARLS, CAMEOS, AND OPALS.

There are not many pearls in the Exhibition besides those shown by the New-York jewelers who have been referred to. In their exhibits there are some pendant pearls of exquisite shape and bright yet velvety luster; and there are two or three of value from their strange colors, such as coral pink and brown, which are quite pronounced and make them objects of curiosity. The chief display of corals is also in the same quarter, though minor exhibits are more widely diffused. In cut cameos New-York similarly makes a better exhibit than Paris, where the work is done. Few things in the Fair so rack the pericardium of the female visitor as a set of cut cameos here shown, that has been selected, we might almost say regardless of expense, during several years, for a New-York lady. Her name is of course an open secret—to her friends; to the average visitor it is an occasion of intense curiosity. After fruitless inquiry on this point, one of the spectators at last announced triumphantly, "Well, at least I know her initials; they are P. K." There was great disappointment when the proprietor of the display stated that the device on one of the cameos—the Greek letters rho and chi—had reference to Christ, the subject of the cameo, and that neither p, k, nor even x was any one of the sought-

for initials. Here should be mentioned, among valuable stones, the chrysolites, of which there are many displays, that of Italy being probably the finest of these crystals from the olivine rock. For my own part, I see no more beautiful gems in the Exhibition than the opals. A few of the smaller ones shown by our own jewelers seem to burn with fire within. Hungary sends from her upper provinces a display of huge opals that utterly eclipses all others. Some of these are in the rough, showing the veins in trachytic rock that furnish the gem, which is a hydrated silica. Perhaps it may destroy the romance which attaches to the opal to explain how its colors are produced, and readers who wish to keep intact the romantic sentiments associated with it, and who prefer to believe that its colors fade if the wearer is untrustworthy, will do well to skip the next three sentences. Sir Isaac Newton showed that when glass lenses were squeezed together with great pressure, rings of colored light appear; the different colors of the prism being brought out one after another by increasing the pressure. The modern explanation is that the passing ray of light is broken into its constituent waves of color while passing through the narrowed space; the waves of color being shorter than a wave of white light containing all colors. The narrow laminae which compose the opal are thin enough to divide light, hence its "opalescence;" but at their edges these laminae may absorb moisture by capillary attraction, and perhaps lose their fire if thus clouded by perspiration when long worn as a personal ornament. It is not necessary to believe this theory, however. Besides, it may be doubted whether opal is nowadays such a trustworthy stone as it used to be, since it has been found where no mineralogist would have ever thought of looking for it—in the hydrated sesquioxide ores of iron. Queensland sends several specimens which certify to this fact, and we may now expect the miners of Pennsylvania, where "limonite" or "brown hematite" is the common ore, to be scratching it to pieces in search of opals.

TOPAZES, CAIRNGORMS, BERYLS.

In the Russian Department, Main Building, there is a remarkable show of topazes from one to six inches in diameter. The collection of Brazilian topazes is also very fine. A Scotch exhibitor, James Atchison of Edinburgh, makes a profuse display of large cut and mounted cairngorms, rich, light reddish-brown, transparent stones, which closely resemble the Brazilian topazes. Some of them have a waxy luster like that of amber. His case, indeed, looks like a natural history collection in many respects, as it contains 200 or 300 beetles made of amethysts and cairngorms, the pseudo-insects being arranged in sizes on cards, after the manner of entomologists; while the heads of rams, with large amethysts in their curved horns, look down upon the visitors from an upper shelf.

In the Russian display, the Government School of Mines has stripped its museum to send its most attractive specimens. Siberia furnishes the largest beryls in the world; and the show of beryls and

aqua marines—which I believe to be much the same thing—in the Russian department may be fairly called prodigious. The same description applies to the Russian display of malachite, that mineral being shown in every aspect, from the native rock, in large masses, to the highly polished and exquisitely carved slabs that are used for tables, mantels, clock-cases, and smaller articles of vertu. One of these mantels bears in full relief bunches of grapes, cherries and other fruit, of their natural sizes and colors. Russia also exhibits specimens of rhodonite, a somewhat new stone to Western eyes; it is composed chiefly of silicate of manganese; the color is a delicate pink, mottled curiously with black: the chief use seems to be for candlesticks, clock-cases, and card-receivers. There is also a full display of lapis lazuli, both worked and in the rough. Other European countries besides Russia make good exhibits of both malachite and lapis lazuli; but one of the most creditable displays of malachite comes from Queensland, on the other side of the globe. The Russian show of labradorite (Labrador feldspar) is very brilliant; the tables, boxes and other objects made of it gleam with iridescent reflections. It may here be briefly said that the exhibit of crystalline minerals from Russia not only surpasses expectations—it has no compeer. It includes, besides those which have been named, large and fine specimens of jasper, tourmaline and amethyst. The show of amethysts, large and small, from many different countries, is almost a feature of the Exhibition; Canada's contribution, principally obtained during Government surveys, being remarkable for the size of its specimens, as well as of individual crystals; but clusters of stones, where each is of two or three inches diameter, are of course not very precious. Considerably above all but the finest amethysts should be ranked the euclase exhibited from Brazil. Though accounted a second-class gem, euclase has something of the strange prismatic red and green which we see in the opal, though not equaling the opal itself in internal fire. Bohemia makes a large display of garnet jewelry; shows, in fact, the utmost that can be done with garnets. The stones are mined near Toplitz; some of them have a remarkable glow, but in general the exhibit is noteworthy as a decided success, where anything short of the best taste and skill in arrangement and setting would have resulted in unrelieved failure.

THE ONYX THAT IS NOT ONYX.

Among the most attractive things in the Exhibition are the Mexican "onyxes," so called. These are in large slabs of nearly an inch in thickness, bearing a high polish. The first impression which these slabs give is that they may be an exceedingly transparent, variegated white marble. But marble has not such clear translucency. Some of the specimens are so set in upright frames as to show their capacity for transmitting light. There is none of the milkiness of alabaster about this stone. It has the clearness of chalcedony, and most people hastily examining it would conclude that it must belong to the flint or quartz series. But where shall we find agate

or onyx that can be cut or polished in circular slabs of two or three feet diameter? The striae or veins which penetrate it have no regularity of shape like those of the chalcedonic series; they are not apparently layers, and they are of endless varieties of color. The Emperor of Germany has purchased the finest of these "onyx" exhibits, composing a mantel-piece; I have heard the price stated at \$3,000. Prof. J. S. Newberry of Columbia College—to whose courtesy as well as to that of Prof. Sterry Hunt I am much indebted—has solved the riddle of these Mexican curiosities. They are stalagmite; but it is impossible to determine whether they are obtained from caves of modern era or from geologic formations which inclose the stalagmites formed in caverns of a remote epoch. More nearly allied to real onyx are the large butterflies carved from some varieties of agate and inserted as mosaics in black marble, exhibited in the Canadian department.

AMBER AND AMBERGRIS.

Amber, though a fossil gum, and having no more right to rank with stones than the copal dug from the seacoast of Zanzibar, or the kauri similarly exhumed in New-Zealand, is yet by courtesy classed among minor gems. Perhaps the excuse is that the coniferous trees which produced it—probably it exuded from the tree as gum-arabic does from the acacia—all lived and perished in the Tertiary period of geology, and have left scarcely enough of leaves and fragments to determine their specific botanical characters. The flies in amber have furnished a favorite subject for poetical similes for several centuries. "Flies" have long since ceased to be the proper designation, as not less than 600 different species of geological insects have been identified and described in amber. In the extreme south-east corner of Memorial Hall there is a cabinet full of amber insects which will richly repay the curiosity hunter. Several of the largest pieces of amber ever found on the shores of the Baltic are displayed in the Main Building, and there is no end to the show of the cut and worked gum. With amber comes meerschaum, the two being usually combined in the display, as they will be in the uses of the smoker. Pipes, elegantly carved, too beautiful to smoke, and which it would be something of a sacrilege to color with tobacco are temptingly arrayed in numerous show-cases. I hope the mineralogical reader will not drop the paper in disgust if I here mention ambergris. Truly it is not a stone, but it looks like it, and I want to let fall a tear for the poor whales who must have carried the enormous specimens shown in the Exhibition for many years in their intestines, while these concretions were growing to their present diameters of eight to ten inches across.

ALABASTER—NATIVE GEMS.

Alabaster and some of the ornamental marbles might fairly have been included in the foregoing list of precious stones; but if alabaster be included, it is hard to say why porphyry and marble should be left out, while if marble is to be described it will lead us by gradations among building-stones and limestones, and we shall wander from precious things entirely. Let us finish with alabaster. It

gives a very beautiful finish to the articles it ornaments, quite numerous displayed, principally from Italy. I imagine that the United States is Italy's best customer for the translucent vases, card-holders, boxes, and knick-knacks that abundantly illustrate the ease with which this soft stone is cut and carved. Some of the choicest specimens are made by judicious use of the clouded and translucent varieties together, and where this is found in the same stone there are pleasing effects of the cameo kind that can be produced by the skillful artist. Let me suggest that a fortune lies in wait for the chemist who shall discover the art of hardening alabaster after it is carved.

It may be noticed that in the foregoing sketch nothing is said about precious stones found in our own country. The famous chapter on Snakes in Ireland would here be applicable. A few years ago all the streams of New-Jersey were ransacked, and every unhappy mussel on their banks was ruthlessly torn open in the search for pearls. There is a floating rumor, perhaps mythical, that a few were found of value, one said to be worth \$1,000. Be that as it may, there are no pearls known to have come from this source displayed at Philadelphia. The other gems shown from different localities in the United States may be generally characterized as showy mineralogical specimens, admirably suited for cabinets, but not well adapted for cutting and wear as jewels. Among these may be named some fine tourmalines from Paris, Maine. There are many beryls from different places in Massachusetts, New-Hampshire, and Pennsylvania, all of a similar character; where there are beryls there is hope, for the precious emerald is only a high-colored, pure, deep green beryl. It is perhaps needless to say that there are no diamonds from Arizona in the Exhibition. There are two or three cases of crystalline minerals, principally from United States localities, in the Government Building. They form a very fine collection, and are, I believe, lent by their owners, of whom the chief are Messrs. Joseph Wilcox, E. B. Beadle, and Theodore D. Rand, all of Philadelphia. Among these specimens there are fair amethysts, agates, and other stones sometimes accounted "precious;" and perhaps a few commercial gems might be picked out also from the mineralogical collections sent from different States. Some specimens of sapphire have been found in Montana. In the Government building, North Carolina cabinet, there is a full collection of precious stones from the corundum mine of Col. C. W. Jenks. This includes several specimens of sapphire, the white as well as the blue, which occurs in the native rock in large masses, but the absence of suitable cleavage planes prevents its cutting to advantage as a commercial gem. From this corundum mine there are also exhibited oriental emerald, ruby, topaz, asteria, and girasol. All these are found in the mineral called ripidolite, and their exhibition in the matrix a few years ago quite upset previously established theories respecting their geological origin. Finally, there are two or three fine exhibits from abroad, in the Main Building, of imitation gems, and it need scarcely be said that in brilliancy and size they leave nothing to be desired.

W. C. W.

GOLD AND SILVER.

EFFECTIVE EXHIBITS FROM AUSTRALIA — GREAT PYRAMIDS OF GOLD—CHILI'S RUBY SILVER—A DISPLAY OF AMALGAMATION—CRUSHING SILVER ON A LARGE SCALE—SPECIMENS THAT PUZZLED A GERMAN PROFESSOR.

PHILADELPHIA, Aug. 17.—"There has never been so fine a collection of minerals on this globe," said one of the judges of Group I in reply to my inquiry as to how the Centennial Exhibition compared with its predecessors. This was said enthusiastically; and is the opinion of an expert, as Group I has to do with metals and minerals. It is not only the largest and most varied collection; it is the choicest as to specimens and the most instructive in the completeness of its range. It is quite practicable to study out here, without stepping out of the Centennial grounds, the entire geological and mineral characteristics of several European countries, of most of the English colonies, and of a number of our own States. The collection is equally great in mineral specimens, in cut and polished products of the quarry—monuments, ornamental stones, and the like—and in the display of metals shaped to the various needs of industry or taste. But as each of the Centennial buildings and each of the annexes has its contents arranged by countries and States, it follows that the exhibition of metals and minerals, marvelous as it is, fails almost wholly of an effect on the observer, since it is practically scattered about among other things and over several acres. Even if every building were thoroughly explored, the visitor who attempted a complete survey would find in addition a large number of noteworthy displays of minerals and monuments out of doors.

THE PRECIOUS METALS.

Even a careless observer cannot overlook the displays from the gold and silver producing countries. The British colonies each show their separate amounts of gold obtained since its discovery on their soil, by a very striking device—a gilded pyramid, whose bulk exactly equals the total of gold for each colony. Aside from its effectiveness as a popular display, this is of real service; it gives at once the idea of the total as well as the relative product. Most Americans have a general impression, for instance, that the discoveries of gold on Fraser River and elsewhere in British Columbia, amounted to very little; but here is the evidence to the contrary in a gilt pyramid indicating that the total of gold there found from 1858 to 1875 was nearly \$38,000,000. It is much to be wished that a similar method had been carried out for each of our own States and Territories. The eye is better able to judge quickly of dimensions than of figures, and the impression thus made in comparison of bulks by sight is more permanent and instructive. The specimens of gold ores from each of the Australian colonies and from British North America, give in each instance a complete series, and the great nuggets are also represented. The processes of obtaining the gold, and the localities where it is found are shown by photographs. Of course the great exhibits are from Australia. Among the minor ones of in-

terest, Nova Scotia sends beautiful specimens in the rock, which will convince even the incredulous as to the gold in that province; the amount obtained there from 1862 to 1875 was over 242,000 ounces.

In silver the foreign display is less striking, but from a wider range. Canada sends a fine array of specimens from the Lake Superior district; of these the best are from Major A. H. Sibley of New-York, representing the ores of Silver Islet, which has produced up to the present date about \$2,500,000 worth of silver. Skipping for the present our own country, and following the silver beds southward, we have next the great display of Mexico, which includes a fine series of silver ores and an immense mass of the metal itself, the latter being one of the remarkable things in the Exhibition. All the foregoing displays of precious metals are in the Main Building; among the curiosities in the Government building is a fine specimen of ruby silver from Chihuahua. Going still southward, the silver beds of this hemisphere dip beneath the sea till we reach South America. From that continent Chili sends by far the most interesting exhibit of silver. The series of ores is quite complete, several mining districts being fully represented, especially that which contains the famous mine of Chañarcillo. The cabinet of Emilio Escobar attracts much attention from mineralogists. The most striking feature of the Chilian exhibit is the ruby silver in beautiful crystals. As far as appearance goes, they would fairly deserve to rank with jewels, but they are unfortunately too soft to be set and worn as gems. It is very unusual for a crystalline mineral which must stay locked in a cabinet, to have such a value as this; but such is the rarity of fine ruby silver that one of these specimens is valued at \$4,000. Chemically it is the antimonial sulphide of silver; as a mineral its name is proustite. In a separate building entirely devoted to the purpose, Chili shows the machinery and processes of amalgamating and extracting silver. The exhibit is a working model on a linear scale of 1 to 6 (cubic proportion, 1 to 216). Two finely finished steam engines, neat and very small, form part of the model and actually drive the machinery. I hear that there is much curious speculation as to the object of this exhibit. People of a practical turn of mind, who have noticed that the buildings devoted to separate industries are little else than gigantic advertisements, ask what is the purpose of this separate show of amalgamating machinery from Chili. A suggestion that the amalgamation may have a dark political intent probably has originated with Democratic visitors who are not aware that the Chilians are quite as "Caucasian" as they.

While neither the Peruvian nor the Brazilian show of precious metals calls for special remark, it is worth noticing that the latter is much the greater. It justifies the belief that Peru has lost rank among the silver producing countries, but it may be the mere accident of inferior exhibition. The Argentine Republic makes good its name by sending not less than 225 specimens of silver ore. The examination

of these is much facilitated by the special catalogue of that country. They are of considerable commercial value and include many that are curious. Among them are three or four illustrations of ruby silver in crystalline form. There are also 25 or 30 specimens of ore containing gold.

From the Old World there are specimens of the gold of the Ural Mountains in the Russian exhibit, a very considerable display of silver and its ores from Spain, and of gold and silver from Portugal. But Norway's show of silver is the most noteworthy, the Königsberg Silver Works making an exhibit in the Main Building which, like everything else from Europe's northern peninsula, is admirable. Both ore and ingots are shown, as well as the metallurgic processes, and not the least curious part of this exhibit is a specimen of the overlying rock veins, including flat crystals which stand apart on their edges and inclose geometrical spaces.

The display of gold and silver from the United States is very rich, but under the great disadvantage of being much scattered. I do not feel sure of doing it justice, as some of the exhibits are so tucked away that they are not likely to be found in a rapid survey. In the Main Building and its two mineral annexes there are comparatively few minerals of any kind from beyond the Mississippi. In the very full series of ores from Michigan there is some silver from the Lake Superior district. This is deserving of separate mention, not on account of the abundance or size of the specimens, but from their singular character. The brightest, whitest native silver in the Exhibition is to be found here—in the mineral annex to the Main Building. These specimens of Michigan silver look as if they had been deposited from an electro-plating battery, and it is likely that they are a product from galvanic action that took place ages ago in the soil; some of them have leaf and fern shapes, and are mounted on copper of equal purity. Where the silver and copper join, the metals are welded together, and though the line of demarkation between them is plainly indicated by the respective colors, the junction is as perfect as if they were one piece of metal. Yet there is no alloy between them. When specimens of this character were first found, Profs. Foster and Whitney—who were preparing a report on the Lake Superior region, which has since become one of the classics of geology—sent some of the specimens to a distinguished mineralogist at Freiburg. The German professor could not believe that pure copper and silver were thus associated in nature, and at once denounced the whole thing as a Yankee trick. Among the fine illustrations in the Mineral Annex of this curious combination is a set of miniature models of the tools used in mining, each of which is made of the two metals thus naturally joined in two or three places in each tool. Thus half an inch of the handle of a pick is a rod of silver; the next half inch is copper; part of the head of the instrument is silver again, and the rest is copper; but the apparent texture is uniform throughout, as if the whole were of one metal.

The gold ores in the Government Building, representative of Georgia's mineral wealth, are more numerous and noteworthy than from Virginia or North Carolina. The rest of the gold and silver specimens from the Eastern, Middle, and Southern

States are of no importance except as objects of curiosity. But the mining States and Territories of the West make up for all deficiency elsewhere by the abundance of their display. Only a small proportion of this is to be found in the Main Building and its two mineral annexes. The more interesting and rare specimens are chiefly of silver ores. There is a building separately devoted to an exhibit of the stamping and crushing machinery of the Nevada silver mines. This is furnished by four of the mining companies. It is not in miniature like the Chilian machinery. The heavy stampers do full-fledged work on the ores provided, with the normal amount of noise; and the triturated mass is duly stirred with great commotion in a large tank of water. Moreover, the visitor can here buy silver medals guaranteed as to purity of metal and made—so far as the extraction of silver is concerned—by the processes which he witnesses; the medals are coined at the mint. To find the largest exhibit of gold specimens we must go to the Government building, where there is a neat little show of them kept in an iron safe. This includes some crystalline specimens of notable beauty, and a neat but not very large display of the metal itself in various conditions fairly illustrative of the forms in which gold is discovered. The gold display from Virginia City is especially showy. The First National Bank of Helena lends specimens of gold dust, nuggets, and quartz. In separate cases in the Government Building each of the Western mining States and Territories presents a series of its ores containing precious metals. Nevada has a full set of specimens from the Comstock lode, and shows gold as well as silver. In the California cabinet there are several specimens where the gold crops out to view on the edges and in the seams. The Montana case is singularly rich in crystalline forms. Especially interesting to the mineralogist are the tellurium ores which Colorado exhibits. Tellurium is a queer substance belonging to the sulphur and selenium group of metalloids, and somewhat rare; in fact, it has been ever since its discovery a sort of chemical curiosity. This is the substance of which a certain professor ate a small quantity, and noticed with surprise for several days afterward that his friends avoided him. Finally one of them, getting to the windward and burying his nose in his handkerchief, kindly explained to the professor that he exhaled a horrible smell. The professor's friends might have been reconciled to his scent if they had known that thousands of dollars' worth of gold were to be discovered in conjunction with tellurium. This remarkable association was first discovered in the locality made famous by Bret Harte's poem—on the banks of the Stanislaus River in California. The telluric ores from Colorado shown in the Government Building come from two different localities in that Territory, now a State: one in its south-western portion, the other more nearly central, and south of Denver. Some of these ores are very rich, yielding \$50,000 of gold to the ton. The casual visitor will be apt to miss a fine collective exhibit of minerals gathered on the line of the Central Pacific Railroad, as these are in cases in the Agricultural Building. They include many fine and valuable specimens of silver ore. To see all that the Western mining districts have sent it will be needful also to take a glance in the buildings of the States and Territories.

It may be noticed that the variety in silver ores as represented in the Exhibition is far greater than of gold. This is not to be ascribed to the circumstance that silver is more plentiful or more widely distributed than gold, but rather to the chemical nature of silver itself. It is more ready to enter into combinations. The most natural of these and the one which is most abundant, if indeed it is not the primal one from which all or nearly all the others are formed, is the black sulphide of silver. This, meeting with water charged with different salts, or in drier situations exposed to atmospheric influences, undergoes various changes, some of

which are immediate substitutions, while others are consecutive. The first step is frequently oxidation from sulphide to sulphate. In case of "ruby silver," antimony has taken the place of part of the sulphur. In "horn silver" the chlorine has doubtless been supplied from salt water, producing a tough substance, usually in coatings and sheets that cut like wax. The iodide and bromide ores are of course the result of similar processes. Some of these changes are actually going on at the present day in the Comstock mines, evolving a temperature there which is frightful to contemplate even after the heated term of this Summer. The miners there have to be kept wet with streams of cold water, and even with this advantage cannot work in the hottest seams for more than an hour or two at a time. This heat is the direct product of chemical action. It should furnish a strong argument to the more modern theory of volcanoes, which dispenses with belief in the central fires of the globe.

W. C. W.

THE IRON EXHIBIT.

A FEW WORDS ON PLATINUM—SWEDEN'S GREAT SHOW OF IRON AND STEEL—DIMENSIONS OF KRUPP'S GUNS—NEW-YORK'S IRON—PENNSYLVANIA'S HEAVY WEIGHTS—BRITISH IRON-MASTERS COMING TO THIS COUNTRY.

PHILADELPHIA, Sept. 7. — Perhaps the phrases "Economic metals," "Economic minerals," "Economic woods," which appear in the literature of the Exhibition with remarkable frequency, are not the best of English, but they convey a fairly definite idea. To the first of these I suppose platinum belongs. It is more valuable than silver, but as the Russian coinage of platinum never amounted to much more than an experiment, it is not ordinarily ranked with the "precious metals." The large masses of platinum in the Fair are all in the Russian department. The metal was found only in small grains for nearly a century after the discovery in South America, and this was its condition also when discovered in Santo Domingo, and more latterly in washings at Port Orford and Rogue River, on the coast of Oregon. In these instances it has usually been found with grains of the native alloy of iridium and osmium used for pointing gold pens. There are certain remarkable similarities about the three metals, and they form a group by themselves. There is another allied group—rhodium, indium, and rubidium, if I recollect aright—whose specific gravities have a direct numerical ratio to the platinum series; but chemists are not agreed as to the significance of the relation. Of all these, platinum is by far the most abundant. The discoveries of this metal in Spain and Bavaria are not of any commercial importance; only in the Ural Mountains is it mined in masses, and Russia owns the great source of the world's supply. There is a noteworthy exhibit in Agricultural Hall by the proprietors of some large platinum works in France; of course they must be dependent on Russia for raw material. Some of the best work in shaping platinum for practical use is shown in the specimens sent to the Exhibition by one of our own countrymen, from an obscure hamlet in Pennsylvania. If the metals had been created solely to provide for the wants of

civilized man, an abundance of platinum might well have been stored somewhere near the surface. It would take the place to a great extent of iron, copper, tin and zinc in the arts, if it were cheap enough, since it does not corrode and hence is cleanly bright, and permanent. Perhaps there is some great deposit of this metal now buried beneath the sea, which may be revealed for the use of our successors.

Meanwhile iron is the metal of the world, and the one most abundantly illustrated in all its varied forms at this Fair. Indeed, so plentiful is the display of this metal, and so generally does it form part of each National and State exhibit, that I have no hope of doing even-handed justice to the subject, and I scarcely know where to begin. The European displays are principally of the finished products in iron and steel; our own exhibits of these manufactures are confined to a few States, but are very noteworthy. Iron ores are exhibited almost universally. Great Britain's show of ironwork is not on the whole proportionate to the greatness of her iron manufacture. Among its more noteworthy features are the models of the Siemens gas furnaces in the Main Building; the great armor plates torn through by shot, which are displayed by John Brown & Sons in Machinery Hall; the work shown by the West Cumberland Iron and Steel Company, and by John Biggs of Liverpool, who employs a new process; and the ornamental iron work in the Main Building, not far from the Elkington exhibit, which can scarcely fail to catch the eye of even a transient visitor. It is currently reported that some of the large steel manufacturers of Sheffield will shortly transfer their labors to this country, and that a preparatory investment of \$100,000 has already been made near Syracuse, N. Y., with a view of establishing steel works there. Canada has an admirable exhibit of iron ores and some iron work from 50 different localities. Of these 21 are magnetic iron ore, 15 are hæmatite, and 10 are limonite: a first-rate catalogue furnishes every detail respecting these specimens, which will well repay study: the successes and failures of Canadian iron industry are alike illustrated, and the impression is conveyed that the smaller ironworks, conducted with careful economy, have been more fortunate than the ambitious undertakings. Sweden makes the finest exhibit of iron and steel at the Fair, and from all I can learn, the finest that has ever been made anywhere. I have the high authority of Mr. I. Lowthian Bell for saying that it is not only the most showy exhibit, but also the most complete and scientific. The system of displaying the geology of Sweden is especially deserving of praise; all the beds are represented by specimens in cabinets, arranged in the order of the rocks—primary, secondary, tertiary, quaternary, and modern formations being each by themselves, and the localities being shown by large geographical and topographical maps. A few of the specimen boxes are empty, owing, I learn, to an unfortunate loss in transportation; it is hoped that they will be filled again before the close of the Exhibition. I can imagine

no quicker way for even a novice to acquire a fair knowledge of the science of geology than by the study of these cabinets. But while it is quite possible for a hasty visitor to lose sight of these cases of minerals, nobody can go through the Main Building with his eyes open and miss the magnificent displays of the Swedish ironmasters. Tall columns and pyramids, constructed wholly of the various products of the forge, form some of the most striking objects in the Fair. The collective exhibit of the Jernkonteret is perhaps the finest of these displays. This association embraces a very large majority of the ironmasters of Sweden, and by combining the fine specimens of their workmanship which each has contributed, they make a very effective show. The Jernkonteret also sends a complete series of iron ores and minerals; illustrations of processes, and maps of localities and mines. The Fagersta Works make a very fine display both of products and ores. Equally effective is the exhibit of the Sandvik Iron Company, including castings, shafts, car wheels, and the like; besides the heavier display which includes Bessemer steel, there are the lighter products of the art, such as knives, razors, scissors, &c. This exhibit is also accompanied by a series of ores. The Motala Works present an immense show, their steel products being grouped in an 8-sided pyramid. In the foregoing and several other meritorious exhibits of Swedish metallurgy, certain points are noteworthy: The articles are grouped with such skill and taste that they make a very pleasing display, in this respect surpassing any of the exhibits of iron and steel in the Fair. Among these articles there are many that specially illustrate details in their manufacture, and show the peculiar qualities of the metal, where it has been subjected to various appropriate tests. All of Sweden's show of metals and minerals is grouped in the Main Building; a circumstance which adds greatly to its effectiveness. In the Norwegian iron and steel display, the metal is shaped so as to present an ancient war vessel of Scandinavian seas, and the figure of an armed warrior on board recalls the legends of the vikings.

It is a step downward from Sweden's great exhibit to that of Germany, though the latter includes Krupp's enormous cannon, and provides in more than one sense some of the most striking things in Machinery Hall. The largest of the Krupp guns has a caliber of $1\frac{1}{8}$ feet; it is $26\frac{1}{4}$ feet long, the bore extending $22\frac{1}{2}$ feet; the weight is 126,750 pounds. The bore has 80 parallel grooves, with a uniform twist of twice the whole length of the gun; it follows, of course, that the grooves do not make quite half a turn. To load the gun for a steel or chilled iron shell 275 pounds of powder are required; the shell itself weighs over 1,150 pounds. Such an amount of metal might demolish a small fortification at a blow; but for service in war a few hundred pounds more or less in the weight of a shell do not probably make much difference in the feelings of the soldiers among whom

it falls. I transcribe a single sentence in which a friend recounted to me the sensation in a case of the latter kind. He was with the German forces during the siege of Paris. His detachment was within range of Fort St. Valérie, but had not previously been observed by its gunners. The first shell from the fort came unexpectedly; was aimed with precision, and exploded an instant before it fell. "It was as if a whole hardware shop had suddenly dropped on us from the sky!" It may be judged that these enormous guns of Krupp are meant for out-door work, since it is specified in respect to the largest, that its carriage is intended for earth parapets of 62½ feet high; but as the whole machine—gun, carriage, and slide—weighs over 200,000 pounds, such use seems scarcely practicable. The second in size of the guns of Krupp's exhibit is called "the long gun;" it weighs 34,700 pounds, has a caliber of about 9½ inches, and a total length of 17 feet. Its charge of powder and its projectiles are each about 30 per cent of those of the greater gun, but the initial velocity of the projectiles differs very little. There are five other guns in Krupp's exhibit. All the seven are made out of crucible cast steel. Besides the guns there is a good show of ores and steel products, the latter including locomotive wheels and tires and two large shafts; but the military feature of this exhibit is the most pronounced, and in it there are life-size figures of horses carrying their loads for field service, and thoroughly suggestive of the business of war.

The more peaceable exhibits of iron from Germany are near Krupp's guns, and overshadowed by them. There is a column of spiegeleisen from Cologne—a square pyramid about nine feet to the side at the base and 30 feet high. The spiegel iron in the collective exhibit near the pyramid is also noteworthy, and the specimens of spathic iron ore and of the kidney ores are very fine. From the annexed territory of Lorraine, and especially from Saarbrücken, where one of the first battles of the late war was fought, there is a good display of iron and ores; from Luxemburg there are great beams of iron two feet deep and fifty feet long; a casting from Upper Silesia weighs 3,750 pounds, is about 27 feet long and 7 broad. In short, the display of iron and its ores from Germany, though not arranged with as good taste as the Swedish exhibit, is fully its equal in abundance of the metal. There are some specimens of kidney iron ore in the German exhibit which are veritable curiosities; semi-crystalline forms looking like bundles of rods, or taking shapes like the miniature columns of basalt in toy models of the Giant's Causeway.

Belgium displays her iron and steel in the Main Building. Perhaps the specimens were collected hastily; they are not remarkable either for size or excellence. There is a varied show of girders, channel bars, rolled beams, splices, bolts, and railway supplies. The Société Anonyme de la Providence takes pains to let Americans know the price at which its iron products can be laid down here. The circumstance is of interest, as this is the concern

which recently as "the Providence Iron Works" astonished Englishmen by opening an agency at London and taking large orders in that market.

France is unfortunate in having her iron and steel exhibit scattered in different buildings. In a corner of Machinery Hall the specimens of work from the Rive de Gier district are collected, including wheels made by drop forging. There is a considerable exhibit of French iron and steel in Agricultural Hall—why there I do not know—of which great pipes and lamp-posts form part. The Marseilles Gas Company sends a quantity of spiegeleisen.

Spain makes a unique exhibit of swords and other arms forged in the national armory. In Russia's department in Machinery Hall, Prince Demidoff has a very imposing display of heavy ironwork—rails, chains, cables, sections of cannon—besides a fine collection of ores. Near this are smaller but meritorious exhibits by his fellow-countrymen. There is less inappropriateness in putting the steel scythes of Hungary in Agricultural Hall than in some previously mentioned instances of scatteration, but few visitors would think of going there to find those implements.

The show of iron, steel, and ore from our own country is enormous but unequal, the States not being adequately represented in all instances. Let us begin with New-York, as that should interest TRIBUNE readers most. This letter would become a mere directory of names if it gave notice of all the exhibits of other States, but in the case of New-York there are so few that it is quite practicable. The Albany Iron and Steel Company has a star-shaped display, and from Moriah, Essex County, there is a show of magnetic iron ore in the Government Building. Burden of Troy has a horse-shoeing machine, and an exhibit in the Agricultural Building. There are Champlain ores from Port Henry in the Main Building—a very good display. The Albany and Rensselaer Steel Company have sent their Bessemer steel. The Rodgers Iron Company of Ausable Forks show the virtues of Adirondack metal. The Chrome Steel Company of Brooklyn has a good display. The Union Iron Company of Buffalo has three separate exhibits: in the Main Building 60 different specimens of beams, channel bars, and the like; alongside the Main Building, half a dozen specimens of beams and of bars of angle iron, one 15-inch beam being 52 feet, and one 9-inch beam 80 feet in length. The bars weigh about half a ton, the beams mostly over a ton each; all are rolled at a single heat. In the gallery at the west end of the Main Building this concern exhibits an automatic blast furnace register for recording the pressure of the blast. Beside these things the company has sent specimens of ores from three of the Lake Superior mines, and from mines in St. Lawrence and Essex Counties, New-York.

Pennsylvania's display of iron is simply immense. The ores are well shown in the Mineral Annex, the geologic survey of the State under the excellent superintendence of Prof. J. P. Lesley having provided abundant material. For the maps, models, and minerals exhibited, the State is indebted to the efforts of

John B. Pierce, a public-spirited citizen. He is Secretary of the Geological Commission of the State, but the office is not a salaried one. Coal and iron are mingled all through the mineral exhibits of Pennsylvania. It is however generally conceded that the best of iron ores are not found in coal regions. There is at least one exception to this rule, as shown in the display from the Broad Top coal region—a complete assortment of ores from Huntingdon, Fulton, and Bedford counties. I believe the largest American exhibit of iron is that of the Cambria Iron and Steel Company of Pennsylvania; it includes iron in all stages of ore and manufacture, and spreads over space in the Main Building, the Mineral Annex, Machinery Hall, and other localities. I am not certain whether the Government Building is thus favored. It would not be surprising, as the Black Diamond Steel Works and Hussey, Wells & Co. of Pittsburgh show their crucibles and products under the Government roof, as well as in the Main Building, the crucibles being partly broken so as to reveal the melted metal within. There is not room enough here to enumerate all or even the chief exhibits of Pennsylvania iron, and I break off at this point abruptly, simply remarking that to do the subject justice the visitor must not confine himself to Division T in the Main Building, and especially must not neglect to take a look at the magnificent show of long beams and rails between that building and its annex; among these is a steel rail 120 feet in length. The steel exhibit of America is highly creditable: Commissioner I. Lowthian Bell is reported to have said that the Bessemer steel of the Bethlehem Iron and Steel Company was the finest yet made. The cabinet of ores and iron from this Company deserves special notice. Planished sheet iron, made in Philadelphia, and "Russia sheet iron," also made in Pennsylvania, are among comparatively new American successes. The model of the Lucy furnace calls attention to an instance where the limit of size is believed to have been reached, that establishment having cost nearly three-fourths of a million dollars and having a capacity for turning out 750 tons per week. That and the Isabella furnace are the best appointed concerns of the sort in the country.

New-Jersey has one of the most admirably ar-

anged geological cabinets in the Exhibition, and of course her iron ores are well shown. No one firm owns so many different iron works in that State as Cooper, Hewitt & Co. (of New-York City); they make a collective exhibit. Michigan iron, especially as to ores, is admirably displayed. There are queer specimens of "brown grape iron ore" in the cabinet in the Mineral Annex that might pass for broken sticks of wood, as far as appearance goes: I suppose it is one of the freaks of "kidney ore," thus uniting the animal, vegetable, and mineral worlds in one substance. Great masses are shown of the well-known ores of Michigan—such as specular, granular magnetic ore, which is too rich to smelt by itself; and a 15-ton chunk of 66.6 per cent ore from the Cleveland Iron Company. Ohio reminds the public that she is making iron at \$12 per ton in the Hocking Valley. There is also a specimen seven feet high of black band iron ore, obtained on the line of the Marietta, Pittsburgh and Cleveland Railroad. It is a bituminous shale, saturated with 40 to 50 per cent of iron. The famous Scotch pig iron is made from exactly similar ore. Its value was first discovered by Mushet in 1801, it not having been regarded as ore previously. The whole iron industry of Scotland has sprung out of the discovery. It is a significant fact that the Bairds of Gartsherrie have transferred to Ohio some of the younger members of their family, and these are now making Scotch pig in America which is not to be distinguished from the genuine Caledonian product. Missouri shows a full collection of all her different iron ores in great number and variety. Indiana's ores have been well selected and arranged with neatness by Prof. E. T. Cox. West Virginia sends iron products as well as ores in the exhibit of the Riverside Iron Company. The Woodstock Iron Company shows in the Main Building that Alabama is largely supplied with metallic wealth. Many other States are represented in the iron ores of the mineral cabinets in the Government Building. Of these the collection from East Tennessee deserves mention. Gen. Wilder has gone to an expense of over \$1,000 to make this a full exhibition of economic minerals from that region, giving also the location of mines, direction of veins, and topography. Some of the specimens are as big as a dry goods box—one of the sort that the Chinamen at North Adams use to sleep in.

W. C. W.

M. F. A.

IX.

MACHINERY HALL.

NOVELTIES OF ALL KINDS.

A RUSSIAN TYPE-WRITER—MACHINERY AND MODELS IN OPERATION—CIGARS AND CANDY MANUFACTURED IN THE HALL.

PHILADELPHIA, Aug. 15.—The exhibit of sewing-machines is much the largest ever made at a world's fair, and includes all recent inventions that have gone into practical use up to the beginning of the present year. Canada, England, Germany, Belgium, France and Russia are represented, and the part taken by United States manufacturers in the display is as brilliant as it is prominent. The sharp competition existing between rival companies leads each firm to make the most of its space with draperies, pictures, bright embroideries, fine needle-work, and costumed figures, designed to arrest the attention of visitors strolling along the aisles. A great

deal of money is spent on carved and inlaid cases. There is also lavish expense for pamphlets with illuminated covers, circulars, cards, and other varieties of printed matter. The sewing-machine was perfected years ago, as far as its main features were concerned, but new inventions constantly appear, sometimes in the direction of simplicity of structure, and often in that of attachments for special kinds of work. The most important recent improvements exhibited are for the purposes of embroidery rather than sewing proper. A French machine has a universal feed which enables the operator to give the cloth any direction desired without touching it—a very useful device for embroidering on stamped patterns. Still more ingenious is an American invention for embroidering set figures automatically. By a curious arrangement

under the table the feed is so set that the machine goes on of itself reproducing the pattern. About a dozen different simple patterns can be embroidered by changing the apparatus. Another noticeable invention is a machine which sews with either one or two needles, as may be desired. It is especially useful for embroidery, as threads of two colors can be used and double work performed. Three kinds of machines are shown that sew from the spools and thus dispense with the troublesome shuttle or bobbin. Among the foreign machines there are no new inventions of value, except the universal feed above mentioned, and there is not nearly as high a finish, as a rule, in the mechanical parts or in the cases of the machines as in those made in this country. Cheapness appears to be their principal merit, and American makers could compete in that respect if they chose to. Indeed, many of them do so compete in foreign countries. American machines might be named that retail in this country at \$50 and in England at \$30 or \$35.

A Russian inventor, Mr. Alisoff of St. Petersburg, shows a type-writer which for excellence of mechanical structure, cleanness of impression, and ability to do printing in different characters, leaves the American type-writer far behind. It cannot be made to work nearly as fast, however, as its American rival, and as speed is what most people seek in such a machine, it is doubtful if it will ever come into extensive use. Mr. Alisoff says that he first turned his attention to making a machine for speed, but finding by observation that few men can think faster than they can write with pen or pencil, he concluded that such an invention was not what was needed, but something that would make as accurate and legible "copy" as a printed page. In this undertaking he has fully succeeded. His machine writes in the Russian and English characters, makes capitals, small capitals, figures, signs, punctuation points, and all the French accents. As the types are movable, it can be arranged to print Greek, Hebrew, or any other written language. The manner of working it is to move a lever on a dial to the letter desired, and make the impression with the foot upon a pedal. The speed is about that of ordinary writing. Mr. Alisoff also exhibits an invention for photo-lithographing music. The staves, notes, and signs, printed on thin paper, are kept in small boxes, from which they are taken and pasted upon a large plate of glass, regularity being secured by lines on cardboard at the back of the pane. Thus the composition is built up much more rapidly than could be done with types. A negative is then taken of any size desired—the light passing through the glass—and when transferred to stone the printing is done by the usual process.

Nevada is fittingly represented at the Exhibition by a quartz-mill in operation. As the mining of the precious metals is the only productive industry of any consequence that State possesses, she wisely determined to set it forth to the best advantage. The mill cost \$20,000, and an appropriation, covering the entire expense, was made by the Legislature. Four mines,

the Consolidated Virginia, the California, the Ophir, and the Belcher, send quartz here in sacks holding about a bushel each, and keep the mill supplied—the product being kept separate and sold for the benefit of the respective owners. The rock goes to the stamps through a self-feeding hopper, and comes out in the form of a powder dissolved in a small stream of water that runs through a trough into the amalgamator—a big, round, sheet-iron box heated by steam. Here the quicksilver is added, and the mixture passes into another circular tank, where it is stirred by revolving arms. The quicksilver seizes upon the silver and carries it off into an iron pot, whence the two commingled metals are put into iron pans and heated in a retort, when the former passes off in fumes and is collected, to go through its labor of releasing the silver from the dross again and again. The mill stands back of Machinery Hall, a little distance west of the Hydraulic Annex. Besides the crushing and amalgamating machinery, it contains all kinds of mining implements. Medals made at the Philadelphia mint from pure silver furnished by the mill, and bearing appropriate devices, are sold at \$2 each. They contain \$1.29 worth of silver.

On the grounds at the western end of Machinery Hall, Albert Brisbane exhibits a small working section of a pneumatic tube. Instead of a box-like car or a cylindrical vehicle, such as is used in the ordinary methods of pneumatic transportation, Mr. Brisbane employs a sphere, which rolls through the tube at high speed when the air is exhausted in front of it. The articles to be carried are packed in the bail and secured in place by screws. There is, however, no tendency in the motion to shake the contents of the sphere about, as the centrifugal force generated by the rapid revolutions holds them firmly. The idea involved in this invention is that large tubes can be constructed at a small fraction of the cost of building railroads, and mails, express matter, grain, and other produce transported with great velocity and at small expense.

Admirable for its completeness and its picturesque arrangement is the exhibit of the Massachusetts marine, collected by H. W. Hunt for the State Commission. The sailing crafts of the present time are contrasted in models with those of 25, 50, and 100 years ago. The clipper ship and ocean steamer may be seen beside the old-fashioned three-decked line-of-battle ship, and the vessels of the earliest colonial times are depicted in engravings. Of smaller craft there are models of everything, from yachts and dories to the birch-bark canoes. Oars, compasses, cables, anchors, sailors' oil-cloth suits, divers' armor—in short, everything belonging to the trade of the men "that go down to the sea in ships"—is displayed.

A shrewd lithographer is doing a thriving business furnishing "memorial certificates." For 50 cents the purchaser obtains a handsomely engraved document, suitable for framing, in which, with a formality bordering upon solemnity, President Grant, Gov. Hartranft, and Mayor Stokley set forth over their respective signatures (in fac simile of course)

the momentous fact that he attended the Centennial Exhibition in 1876. The name of the visitor is filled in on a blank left for the purpose, and his imagination revels in pleasing anticipations of the pride his posterity will feel in seeing his name thus coupled with those of the rulers of city, State and nation in the Centennial year.

The paper-making machinery is among the most attractive features of the hall, and to most visitors also among the most novel. It is exceedingly interesting to them to see the rags come out of the great iron drums, where they are churned and ground, in the form of a milky fluid; to watch the deposit of the snowy pulp, and to see this pulp carried forward on broad belts and between successive rollers, until, growing always thinner and drier, it finally is rolled on a drum as firm, white printing paper. The machinery is said to be the best for the purpose made.

The only foreign locomotive exhibited comes from Sweden, and is of a new device. It has a very large space for boiler and fire-box in proportion to its size, and is designed to afford great power upon a narrow-gauge road. The weight of the engine is distributed to a number of coupled wheels, and for counteracting the consequences of the increased distance between the axles the builder has put in radial axle-boxes of his own invention, which act in such a manner that the axles in which they rest take the exact direction of the radius of any curve passed over by the engine, and produce a side motion that prevents wrenching.

Among the many interesting manufacturing processes carried on in the Hall is the making of india-rubber shoes, in which half a dozen women are engaged. The operation is simple enough, and consists in stretching the flat patterns upon lasts, joining them together at the heels, and pasting on the soles. The shoes are left upon the lasts until they take shape. Machinery for purifying the raw rubber, by passing it again and again between toothed rollers under a stream of water, and for rolling the material into sheets, are shown in operation.

A well-known shipbuilding firm of New-York and Chester, Penn., make an instructive exhibit of models of vessels, sections of armor plate, &c., and show a monitor about two feet long and a tug of nearly the same size, with working engines in operation turning the screw propellers. The steam is not generated in the little vessels, but in other respects their machinery is a perfect representation of that used in the larger craft they represent in miniature.

The difference engine, invented by Geo. B. Grant of Boston, whose workings were explained to the American Academy of Science at its meeting in Philadelphia last Fall by Prof. Fairman Rogers, is exhibited by the University of Pennsylvania. It constructs large mathematical tables, such as tables of logarithms, sines, tangents, reciprocals, square and cube roots, computes terms, and prepares a mold stamped in wax, from which an electrotype plate is made ready for printing. The machine—the only one of the kind in the world—is eight feet long and five feet high, contains 15,000 pieces, and cost about \$10,000. It was presented to the University by Prof. Rogers. A small calculating machine by the same inventor is also shown, which performs such simple operations as multiplication and division with great rapidity and of course with perfect ac-

curacy; it consists of about 400 pieces, is about a foot long by six inches high, and costs only \$100. A French machine for the same purpose was exhibited in Vienna, but it was more complex and expensive than this. There is no other American invention of the kind.

A notable feature of the exceedingly large and comprehensive display of printing machinery—a display, by the way, that far exceeds those made at the Vienna and Paris Exhibitions—is the number and variety of little hand-presses for amateur use. "Every man his own printer" is the motto on the circulars distributed by one of the exhibitors. No doubt these presses, with their outfit of type, may sometimes be useful to business men at a distance from regular printing offices, and they are certainly instructive playthings for boys; but it must not be imagined that they make those who use them printers. Printing is an art, and is not to be acquired by the purchase of a cheap set of its rudimentary tools any more than painting can be learned by buying a toy box of colors.

In Annex No. 2 to Machinery Hall—a building which but one visitor in ten ever finds his way to—is a large circular saw for cutting stone, shown by a Pittsburgh firm. The teeth are pointed with rough black diamonds, and the manner in which they are set, so as to bring each one true with the periphery of the saw, is not the least important part of the invention. In 10 minutes time the saw, which is 72 inches in diameter, cuts through a block of hard sandstone 12 feet long by 30 inches thick, making only 120 revolutions to the minute.

A new and apparently valuable invention for drying lumber acts upon the principle of condensing the moisture and carrying it off in the form of water, instead of evaporating it, as is the ordinary method. The drying chamber is heated with steam from pipes below, and is provided with another set of pipes placed against the wall on one side, through which a current of cold water passes. As the moisture in the lumber or other material is expelled by the heat, it is condensed upon the surface of the cold pipes, runs down into a trough, and is carried off. The advantages claimed are rapidity in removing the moisture and the effecting of the drying in a more thorough and equal manner than by the old process.

An ingenious machine for separating small pieces of iron ore from gravel works by the aid of specific gravity. In a large tank filled with water is a square iron box that works up and down and forms a pump, the valves being composed of large chunks of ore resting over holes in the bottom of the box. As the mixture of the two substances falls in, the force of the water coming up through those valves carries the gravel to the surface and out at one side, where it falls into buckets on an endless wheel, and is taken up to a chute. Meanwhile the particles of iron, being heavier, fall to the bottom, pass through the holes, and are transported to a receptacle in another series of buckets.

A few days ago an Iowa watchmaker, Mr. Levi Taylor of Indianola, brought to the Exhibition a steam engine so small that it required good eyesight to distinguish its parts. It rested on a gold 25-cent piece, and weighed only seven grains. The stroke of the piston rod was one-twenty-fourth of an inch, and the cut-off one-sixty-fourth. Mr. Taylor placed his machine on the platform of the great Corliss engine, got up steam by lighting a lamp under the boiler, and gave the spectators present the opportunity of seeing the largest and the smallest steam engines in the world side by side. After remaining in the city a few days, and showing the little motor to the newspaper men, Mr. Taylor returned with it to Iowa.

Two kinds of machines are shown for cutting through a number of thicknesses of cloth at the same time, and with great rapidity. In one, the operation is performed by a revolving wheel, and in the other by a bevel-pointed knife, working up and down through a slot in a little circular metallic

table. The cutting apparatus in both is attached to an arm with a universal motion, and is directed by the hand of the workman along the pattern chalked on the cloth. One machine, it is said, can cut 1,600 pairs of trousers a day, or 500 frock coats.

There are a number of water-motors exhibited for running light machinery, such as sewing-machines, coffee-mills, small printing-presses, lathes, and church organs, that are quite simple, compact, and inexpensive. One, attached to a sewing-machine, is, in appearance, a disk-shaped box 11 inches in

diameter, with a feed and waste-pipe attached, and wheel on one side. It costs \$25. All these apparatus are run by the pressure of a hydrant, and are available in any shop or house that receives water through pipes.

An exhibitor of a patent apparatus for lessening the consumption of gas, states in a placard that he prefers not to sell his "Utilizer," but will put it in the premises of consumers without charge and take as compensation one-half of the saving in their gas bills.

X.

FINE ARTS.

MEMORIAL HALL.

GUIDE TO THE ART EXHIBITION,

PHILADELPHIA, Aug. 26.—In addition to the special criticism of the Art of the various nations represented at the Exhibition, which THE TRIBUNE is furnishing its readers, the visitor may be practically aided by a general survey. If his time be limited, he will hardly be able to do much more than this, on the spot; while, if it be ample, he will still find no better preliminary to a prolonged and careful examination.

The fact that Art is an integral part of all Civilization, and is thus rooted in the very being of Man, is here illustrated every day—if any such illustration were needed. Whatever portions of the Exhibition are neglected, Memorial Hall and the Art Annexes are always crowded. During the hot afternoons, the atmosphere of the latter is scarcely to be endured, and a steam bath is added to the inevitable fatigue of picture-seeing. However, the season of greatest endurance is now over, and henceforth those who go early in the day may make their inspection with comfort. Next to the representations, either living or modeled, of foreign races, our country people are most interested in the art display. By scores and hundreds they pass rapidly through the Main Building, resist the attractions of the Carriage Annex on the one side and the Vienna Bakery on the other, and enter Memorial Hall, where they linger so long that but scant justice is done to the other scattered shows.

The Art Exhibition is very large and very-peculiar. It may be safely said that no other international display of the kind and extent was ever so inferior. Yet, if less valuable as an agency of instruction, for that reason,—less enjoyable to all who already possess some taste and experience,—it is scarcely less interesting than if it were better. It gives us a few good specimens from most of the countries represented, and a very rich exhibition of their mediocrity. We see the common-level of their achievement, as never before, and also the depths to which Art may descend in countries where its best work is appreciated and fostered. Of all European nations, England is the only one which has taken a little pains to make a respectable appearance; and we may well overlook the slight implied by the in-

difference of the others, since it enables us to learn a good many things.

Before entering Memorial Hall it is worth while to look at Wolf's "Dead Lioness" and Mead's group of "The Navy," for the Lincoln monument at Springfield, in order to forget the winged horses between which the visitor must pass. But the encouragement which he may draw from these two works is swept away when, having entered the first gallery, he is confronted by a fearful and wonderful George Washington, of colossal size, soaring to heaven on the back of the American eagle. It is difficult to believe that the same artist designed this monstrosity and the good, though conventional, figure of Aruns, which stands opposite. The gallery is wholly given to Italian sculpture, the present characteristics whereof may be detected at a glance. The forms of children predominate—grave, sportive, or comical—and of all degrees of beauty and ugliness. The expression is always a little exaggerated, in order that it may not be mistaken, and the texture of clothing and other substances is given with great technical skill. Frequently the figures are emblematic, as Rosetti's "Railroad" and "Telegraph," which are among the best. Pozzi's "Youth of Michel Angelo" and Salomi's "Daughter of Zion" also deserve notice. Absence of high conception in design and cleverness with the chisel are evident in nearly all the works. The display of mosaic and pietra-dura is both large and excellent.

THE CENTRAL GALLERY.

The central gallery is occupied by the United States, Great Britain, France, Germany, and Italy, conjointly. Being the chief hall, under the dome, it was simply courtesy to share the space, and the result of a direct comparison of artistic work proves to be anything but discouraging to us. We are here represented, in sculpture, by Story's "Medea," Palmer's statue of Livingston, Miss Foley's "Jeremiah," Rogers's "Ruth" and "Nydia," and a number of figures by Connelly and Haseltine. In painting, we have only Stuart's portrait of Washington to balance an indifferent allegorical piece. But, except Gibson's "Venus" and Chantrey's bust of Benjamin West, England contributes no sculpture of much value; and Germany had better have remained unrepresented than to have sent the stiff, colossal

disagreeable statue of Prince Bismarck. The central gallery need not detain the visitor long, unless he has both time and inclination to make a minute study of all parts of the Exhibition.

Turning to the left, we enter a large hall (marked C and D in the plan), which is divided between the United States and Great Britain. A part of the adjoining central gallery, and of the pavilion at the south-western corner, is also occupied by the works of American artists, of which there are about 360 in Memorial Hall and 940 in the Annexes, making a total of 1,300, without including etchings, lithographs, and other forms of applied art. The first of these collections has a historical as well as a technical interest: the works presented include specimens of our most noted painters, from Copley to the present time. Not all are of good quality, but there are few which are not instructive, in the way of comparison. The visitor will be first struck with Rothermel's huge "Battle of Gettysburg," filling up the entire eastern end of the hall. Whatever he may think of the propriety of admitting such a subject, on such an occasion, he will not fail to be bewildered by the confused mass of struggling figures. Vanderlyn's "Ariadne," which took the gold medal in Paris nearly 70 years ago, deserves particular notice; and there are a number of good representative pictures by modern artists. Page's "Shakespeare" is at least very curious; Nagle's portrait of Gilbert Stuart, and other portraits by Healy, Hicks, Anna M. Lea, Elliot, Sully, Inman, Hunt, and Baker, with landscapes by Gifford, McEntee, Whittredge, Cole, Bierstadt, Sonntag, and Moran, and Eastman Johnson's "Old Stage Coach," should be examined and contrasted with other works in their several fields of art.

The central gallery also contains many fine pictures. In addition to the names already mentioned we find, of the older painters, Gilbert Stuart, Copley, Washington Allston, Prof. Morse, Smibert, and Stuart Newton. This collection of ancient portraits is of great interest and value. Of modern artists we have, in addition, Boughton, Colman, Gray, Suydam, Irving, Hubbard, Wood, Loop, La Farge, Hamilton, and many others. Although there is much inequality of talent in such a number, almost every artist in some one picture gives his best work. Allston's portrait of himself, Copley's of John Adams, Newton's of Washington Irving, Johnson's "Old Kentucky Home," Hicks's portrait of an old lady, Gray's "Model from Cadore," and most of the landscapes invite careful inspection. In the south-western pavilion there is nothing of much interest except—for many visitors—the statue of "Cleopatra Dying," by Miss Edmonia Lewis, the colored sculptress.

The other half of the large hall (marked D), the western part of the central gallery, the north-western pavilion, and the five adjoining small rooms on the northern side of the hall, are taken up with the art exhibit of Great Britain. The selection of works has been made with great care and intelligence: some of the artists give us their best achievement, and scarcely one is represented by an inferior specimen. Few distinguished names, from Reynolds,

West and Fuseli down to our day, are wanting; and the collection, as a whole, very fairly illustrates the history of British art for that period. Altogether there are 14 pieces of sculpture, 193 oil and 54 water-color paintings. Our American exhibition could not, of necessity, be so choice, so unincumbered with inferior work; but we sent something very much like this, in character, to Paris in 1867. No other foreign nation seems to have had any clear idea of the taste for Art already developed among our people, and hence has taken no pains to shape its collection so as to interest us. We owe hearty thanks to the English Commission for what they have done in this respect.

Among the works which must by all means be seen, on account of the place which the artists held in their day, are Fuseli's large, Michel-Angelesque figure of Thor, battering the serpent of Midgard; Sir James Barry's "Temptation in Paradise;" Etty's "Sleeping Nymph and Satyr;" Gainsborough's portrait of the Duchess of Richmond; portraits by Sir Thomas Lawrence and Opie; landscapes by Constable, Turner, and Stanfield; Benjamin West's "Death of Wolfe" and "Christ Blessing Little Children," and Sir Joshua Reynolds's portrait of himself. Frith's "Marriage of the Prince of Wales" and "Railway Station" are the most famous specimens of his manner: there are five small Landseers, two Wilkies, three Calderons, a landscape by Creswick, two pictures by Machise, the "Banquet Scene from Macbeth" being one; C. R. Leslie's "May-day in the time of Queen Elizabeth," and some good examples of such later artists as Orchardson, Leighton, Faed, Saut, Prinsep, George Leslie, Fildes, and Alma-Tadema. There is a portrait each from Millais and Holman Hunt, the latter a capital likeness of the author himself. The water-color collection is also well worthy of notice. Although a few of the best artists are not represented here, we find none the less all the distinguishing characteristics of the English school. Save that the space is necessarily crowded, and the spectator, especially in the central gallery, is brought too near to some of the larger pictures, the English exhibit is very attractive.

GERMANY AND FRANCE.

Returning to the large central hall we enter the central gallery on the opposite or eastern side, which is divided between Germany and France. The most careless visitor is immediately struck with the absence of both the variety and the excellence which he has found in the art of Great Britain and the United States. The pictures are all modern, few of them the work of distinguished artists, and the fact that such a large proportion are offered for sale, suggests a commercial speculation on the part of the artists rather than a genuine representation of the cotemporary art of the two countries. Let us first take the German part, which contains 145 oil paintings. The general impression one gets is that of poverty of conception and conventionality of treatment, combined with fair technical skill. It is very interesting to notice the effect of academic training upon artists who possess feeling for form and color without much power or originality. Effects of light and shade, handling of rocks and foliage, tone and color, soon become familiar from repetition, and many a picture would seem better if it were not surrounded by so many others of the same stamp.

There are but two names in the catalogue which are familiarly known in this country—Achenbach and Meyer von Bremen—each of whom has a rather

unimportant picture. Richter's portrait of Bancroft is a good piece of work, and there are two agreeable landscapes by the younger Preller. Schrader has the best historical picture—"Queen Elizabeth signing the death-warrant of Marie Stuart"—and there is a strong, clear "Picnic in Asia Minor," by Eckenbrecher of Munich. The large battle-pieces are mostly bad. Count Harrack and Braun both send a "Capitulation of Sedan," each of which violates fact and good taste, neither the exact spot nor the personal manner of Napoleon III.'s surrender being correctly given. An ambitious picture of "Columbus discovering America" is one of the worst specimens. Among the genre pictures is a pretty "Early Affliction," by Boser, and Wilberg's "Grotto of Egeria" is a clever bit of landscape. The visitor may find a good deal to interest him, but little to admire heartily, in the other pictures.

The same general criticism applies to the French exhibition in Memorial Hall. There are about 200 oil paintings, and not more than two distinguished names. It is an admirable presentation of the mediocrity of French art. As distinguished from the same department of German art, however, it shows greater technical skill and an effort at originality of subject and treatment, which would be more interesting if it were not so often *outré* or morbid. The central gallery has nothing of much value. In the large hall (marked E) there are nine beautiful specimens of Gobelin tapestry which are well worth seeing—a very large "Death of Julius Cæsar," by Clement, which recalls the school of David; Becker's gloomy and powerful yet repulsive "Rizpah Protecting the Bodies of her Sons"—a picture which the crowd already knows, looks at, and comes back to look at again, in a sort of unpleasant fascination. Prion's "School for Young Satyrs," a very good figure by Sain; some tolerable genre pictures, and a few not very successful nudes. Dumaesque's "Congress of Geneva" deserves to be looked at as a specimen of fearful portraiture: Mr. Evarts and Chief-Justice Waite ought to prosecute the painter for the hideous felon faces he has given them.

Austria occupies the long gallery at the eastern end of Memorial Hall. She makes a better show by comparison with France and Germany. Makart's large painting of "Catarina Cornaro receiving the Homage of Venus," which takes up more than half the eastern side of the hall, is one of the real attractions of the Exhibition. Felix's "Pan and Bacchantes," opposite to it, shows excellent flesh-painting, and seems to be much admired by the crowd. There are some good landscapes, among them Russ's "Mill near South Malo," Thoren's "Norman Pasture," Schaeffer's "Winter Landscape in Styria," and Lichtenfels's "Copper Mines of Agordo." Fux's strolling minstrel ("Sans-Souci") is a somewhat coarse but very simple and strong picture. A view in the Prater, Vienna, previous to the Exhibition of 1867, by Russ, is interesting. There are 121 pictures contributed by Austria, and not more than half a dozen which are not offered for sale. There is at least much more color in this display than in the adjacent halls. It is always crowded, Makart's picture being the chief attraction.

The corresponding gallery on the western side of the hall is devoted to Spain and Sweden. The works of the two countries form a curious contrast, less of development, or even of color, than of subject and general sentiment. Spain has the larger number of pictures and the most noticeable. Among the few

old ones, there is a head of Christ by Murillo and a single portrait by Velasquez. Vera's "Burial of St. Lawrence," a weak and rather sentimental picture, seems to attract the most attention, or perhaps to share it with the "Insanity of Queen Joanna," by Valles. The visitor will find plenty of religious and a few tolerable historical pictures. The architectural views are also worthy of notice. While there is little poor work in the Spanish collection, there is also no one painting of indisputable greatness. The subjects give almost a cloistral character to this hall.

Belgium, Italy, and Russia occupy the smaller rooms on either side of the northern entrance; but the two former countries are much more completely represented in the Annexes. France has also the north-eastern pavilion, wherein the best thing is a portrait of Napoleon I. by Yvon. I have not mentioned the engravings, etchings, paintings on stained glass, and other subordinate forms of art, of which there is enough to occupy those specially interested in them.

To make the circuit of the Memorial Hall, and glance rapidly at all the principal works, is as much as any one can accomplish at a single visit. I have simply endeavored to point out the prominent landmarks, leaving the reader to make his inspection general or detailed, according to his leisure and personal tastes.

THE ART ANNEXES.

GUIDE TO THE MINOR ART EXHIBITS.

PHILADELPHIA, Aug. 31.—Fifty paces north of Memorial Hall stand the Art Annexes, overlooking Landsdowne Valley, which here drops into a deep glen. The necessity of this additional building was perceived almost at the last moment, and hence it was very hastily erected. The arrangements for space and light are as good as could be expected; but temperature and ventilation are as bad as they can well be. During the present term of intense dryness the floors are plentifully sprinkled every morning, and by noon the heat generated under the low roofs renders the atmosphere exactly that of a hot-house for orchids. Thence until the close of the exhibition day, all the rooms are crowded—sometimes packed—with visitors whose keen interest in the display lends them endurance. The four entrances, placed at the four points of the compass, are quite inadequate to change and freshen the air.

The show of art in these Annexes consists of an overflowing and very curious collection of statues in marble and bronze, oil paintings, water colors, architectural drawings, etchings, lithographs, photographs, mosaic and *pietra-dura*, *terra-cottas*, etc.—good, bad and indifferent, imaginative and realistic, sensible and absurd, thrown together as the different nations have furnished them. Whoever wishes to feel admiration, curious interest, amusement, or even an occasional spice of irritation, can here be served to his taste. The rooms offer a continual series of surprises. It is but justice to the members of the Art Commission, however, to say that they are not responsible for all the works admitted: the President, Mr. Sartain, having not only arbitrarily consulted his own taste, but even personally accepted some pictures after their rejection by the Commission. The foreign collections were necessarily admitted without censorship.

The ground-plan of the building resembles a chess-board in the form of a Greek cross. The halls

form so many equal-sized squares, opening into each other at the corners, and lighted from the top, by which arrangement the greatest amount of wall-space for pictures is secured. The entrance, on the south side, ushers us into a single hall, the size of three of those squares; the next series beyond contains seven squares; the third, fourth and fifth, nine each; the sixth diminishes again to seven squares, and the northern end closes with three. All the western part of the building is given up to the United States, including one room for Canada; the three central rows of squares (running north and south) are occupied mainly by Italy and France; the next on the east by the Netherlands and Belgium; the next beyond by Sweden and Norway and Spain; and the last three, on the eastern front, by Mexico, Brazil, Portugal and the Argentine Republic. As the rooms are all numbered at the entrances, and the card attached to every work of art gives the page of the catalogue where the numbering of the country commences, the clew to this great labyrinth—as it seems, at first—is very easy to acquire.

In the large entrance hall Italy is represented by no fewer than 90 pieces of sculpture, 15 oil paintings, and 44 mosaics. There are plenty of graceful and comical children to delight visitors from the country; a number of showy and sensational figures, appropriate for parlors with gaudy-colored carpets and a few simple, honest, and pleasing works. Those of Braga are among the best, and I might point out his "Cleopatra" and Corte's "Lucifer" as more worthy of notice than the many grotesqueries. The latter, nevertheless, are interesting as illustrations of the prevalent taste in Italy. Bazzanti of Florence sends a pair which will make most Americans smile broadly—"Washington with his (little) Hatchet," and "Franklin with his Whistle." Pagani of Milan has also some graceful little figures. The most ambitious paintings indicate at least the intellectual liberty of the new Italian nation; their heroes are Galileo, Arnold of Brescia, and Christopher Columbus. The additional five central rooms given to Italy contain more than 80 statues or busts, and 165 oil paintings. As they are for sale, almost without exception, it follows that the commercial venture of Italy exceeds that of any other country. But many of the statues are the combined work of art-dealers and accomplished stone-cutters, rather than of sculptors. The preposterous "Washington crossing the Delaware," (which many persons take to be Columbus discovering America), belongs in this category. As we inspect them severally, we find another G. W. and Hatchet, and B. F. and Whistle, from Prof. Romanelli of Florence, together with a curious boy-Franklin, by Prof. Zocchi. The latter is well worth looking at, and so is the same artist's "Michel Angelo." There is a statue called "Berenice," by Peduzzi, the startling pose of which instantly attracts notice. The fine old laces on the dress will be almost universally admired.

The Italian school of painting of the present day is not illustrious, but the pictures here exhibited are about up to the standard of the annual exhibitions in Florence and Milan. Here and there is a good,

agreeable piece of work, yet there is a general lack of strong, accordant color. Gastaldi's "Beware of a False Step" should be seen, as an example of what a picture should *not* be. The landscapes, genre pictures and architectural subjects are much better than the large figure pieces. Many of the former will be attractive to a large class of spectators, as spirited illustrations of Italian life and scenery.

Turning to the left, let us now make a rapid survey of the fifteen rooms appropriated by the United States. In the first we enter, No. 6, we find some excellent pictures—Gifford's Adirondack and Venetian landscapes, McEntee's "Winter" and "November," La Farge's "St. Paul," Eastman Johnson's "Sabbath Morning," Shattuck's "White Hills," Church's "Chimborazo," and Hays's "Bison at Bay." There are three of Cole's allegorical series, "The Cross and the World," where one would have been quite sufficient to show how Art fails when it oversteps its natural limits. There are also pictures by Elliott, Beard, Cropsey, Flagg, Bispham, C. C. Coleman and others, and six pieces of sculpture, three of them tolerable portrait busts. The adjoining room, No. 8, is devoted entirely to architectural drawings and designs.

WATER COLORS.

Starting again nearest the center, we reach No. 16, devoted to the contributions of the American Society of Painters in Water-Colors of this city. For its size it is a very complete and characteristic collection, selected with care and intelligence. Boughton, S. Colman, Smillie, Tiffany, Hart, Farrer, Homer, Bellows, W. T. Richards, Miss Bridges, Perry, Hill, Van Elten, Moran, Burling and Falconer are all represented, many of them by their best and most characteristic work. A comparison thereof with the English water-colors in Memorial Hall is exceedingly instructive, yet by no means discouraging, to the American visitor. In the next room, No. 14, we come back to oil painting again. Here we find the two finest works of Kensett, his "Lake George" and "New-Hampshire Scenery;" Whittredge's "Rocky Mountains," also his best; Bierstadt's "California Trees," very true to nature, and good performance from S. R. and R. S. Gifford, Boughton, Gray, Huntington, and others. Here the best pictures catch the eye at once, and stamp their character upon the room. Of the sculpture, Hess's "Water Lily" and Ives's "Nursing Bacchus" are to be noticed.

No. 12, singularly enough, has a loan collection of oil paintings by European artists, a few of which are both interesting and valuable. There is a Vandyck, a Domenichino, an Andrea del Sarto, and a Benjamin West, genuine and good; four very curious pictures by Courbet, the Communistic artist; Cabanel's "Francesca da Rimini;" a pretty figure by Sain, and Makart's two "Abundances." The most remarkable work, however, is a large picture called "The New Republic," by Pauwels of Weimar. The group is arranged in a pyramidal form; on the apex stands Columbia, between Washington and Lincoln: on the left Henry Ward Beecher addresses a crowd of negroes, while on the right a gentleman in black, with the strongest resemblance

to Gainsborough, is welcoming a crowd of German emigrants in Tyrolean costume. The adjoining room, No. 10, returns to American art. There are some noticeable portraits by Sully, Inman, and Healy, pictures by Mrs. Lily Spencer, Eugene Benson, and Louis Lang; but Vedder's "Greek Actor's Daughter" and McEntee's "Virginia" are perhaps the most worthy of attention.

The two American rooms in the next line, Nos. 28 and 30, introduce us to an astonishing mixture. Bad art now begins to predominate, but sprinkled with small and admirable pictures, which must be carefully sought for, like diamonds in a drift of gravel. There are two Washington Allstons, for instance, which might easily be overlooked, one Gilbert Stuart, Ames's head of President Felton, a portrait by Miss Anna M. Lea, and some excellent landscape art. To balance these, there are Rothermel's "Christian Martyrs," and two hideous nightmares of conception and color by Thomas Moran. The latter show what horrors come from an overdose of Turner. Advancing to No. 42, our first impulse is to fly from the room. Most of the names in the catalogue are new to our ears, even as the pictures are new in our experience of art. But the collection has a decided, if on the whole a melancholy interest. Ulke's portrait of Charles Sumner is sufficiently fearful, and Pierson & Poiney's (it took two of them!) "Firemen's Parade in New-Orleans" sufficiently surprising, but Kaufman's "Influence of Electricity on Human Culture," in ten panels, is like nothing that was ever before exhibited. Here are also "The Almeh," "Tubal Cain," and "The Tramp," in each of which there is a striking mixture of success and failure. The remaining rooms, 40 and 44, contain the same blending of good work, shoveled in and half buried under bad, except that there are a few fine old portraits in the latter. These should by no means be overlooked.

Canada has a room to herself, on the west side. She sends 156 pictures in oil and water-colors, a few of which are by old painters, notably Vandyck and Sir Peter Lely, while a number of others appear to be copies from English subjects. Those illustrative of Canadian scenery and life are of course the most valuable contributions. Among the best are several by Verner, and a few misty and golden Autumn landscapes. The worst is decidedly Forbes's "Foundering of the Hibernia." Thus far Canadian art does not keep pace with the development of the Dominion in other respects.

Immediately on the right of the Italian exhibition the Netherlands occupy the three rooms Nos. 5, 13, and 15. There are very few well-known names in the catalogue; the pictures, while some of them are quite satisfactory to the academic sense, are generally stamped by a respectable mediocrity. Altman's copies of the masterpieces of Rembrandt, Paul Potter, and Van der Helst, coarsely yet vigorously painted, are perhaps as interesting as anything else. The number of fairly-painted landscapes, few of which lack some fresh stamp of the open air, whatever may be their other defects, is

an agreeable feature. Among the better works may be mentioned Heemskerck's "Storm near Dover," Bilders's "Landscape near Vorden," Apol's "Early Morning," Israels's "Card-Players," Koekkoek's "Landscape near Guilford," and his "Scene in Kinlenburg."

FRENCH PICTURES.

France takes nine rooms, the northern half of the three central rows. Here, as in the Memorial Hall, we look in vain for a single moderately illustrious name. If a collection were made of the works annually rejected by the Committee of the Paris Salon, it would undoubtedly contain half of those exhibited here. The genre pictures are mostly crude in character; the nude figures cannot be called immoral, but they are not beautiful enough (with two or three exceptions) to justify their nudity; and some of the most strongly executed pictures are made repulsive by their subjects. Adan's "Scene of the Inquisition (in Room No. 35), for instance, is an unmitigated horror. In the same room there is a real phenomenon—Prince-teau's "Horses Frightened by a Railway Train," where a rider, who has been leading a second horse by the bridle, whirls him around his head, through the air! "Decatur at Tripoli" is also an amazement of red and white fire. Among the pictures to be pointed out for relief, if not enjoyment, are Castelman's "Apollo Gallery," Cassagne's "Cross-Road," Garnier's "Bather," Cherez's "Landscape in Dauphiné," Herpin's "River Marne," Maignau's "God of the Woods," Debat's "First Mourners," and Cassagne's "Sully's Walk." But some other pictures will draw attention by traits which are striking, if not wholly agreeable.

Immediately north of the Netherlands and east of France, in three connecting rooms (Nos. 23, 33, and 39), is Belgium. Although we may apply the same general remarks to this exhibition as to that of the former country, the average of performance is decidedly higher—and also higher than that of France. In these three rooms there are about 175 oil paintings, a few pieces of sculpture, and a good display of decorated faience and earthenware. If the rest of Europe had done as well as Belgium, the Art Exhibition would have been much more important. Although there are only a few distinguished names, such as Tschaggeny, Slingeneyer, Count de Beughem, Mertz, Bossuet, and perhaps the Gérards, there is a noticeable amount of clever works by unknown and probably young hands. The influence of the Antwerp school, so much more solid and unmannered than that of Düsseldorf, is plainly apparent in many pictures; but it is a healthy foundation for individual talent to build upon. If there is a curiosity of bad art in the Belgian portion, it does not thrust itself into the visitor's face. Among the better works are Slingeneyer's "Christian Martyr" and "Night of St. Bartholomew," De Schampheleer's "Nymwegen," Verhas's "Sea-Shore at Blankenberghe," Stroobant's "House of the Society of Archers," Tschaggeny's "Flemish Stallion" and "Fire in the Stable" (the latter painfully tragic), Genisson's "Hermitage of St. Hubert," Meerts's "Saturday in the Monastery," and Phemot's "On the Road to Market." Stallaert's "Cellar of Diomed" and Le Gendre's "Clytie" also show considerable power and origi-

nality. The latter, however, is more strange than beautiful: it is the barest realistic interpretation of a beautiful myth. Of the few pieces of sculpture, the one called "Exercise" is the best.

Next east of Belgium is Spain, in Rooms Nos. 25 and 31. The pictures here are more secular in character than those in Memorial Hall, and about on the same level of achievement. Many of them bear the stamp of the popular life of Spain, and are correspondingly interesting; and the whole collection decidedly surpasses that of Italy in feeling for color, vigor of drawing, and a certain virility of execution. The "Venus" of Valera is an excellent work, and Villamil's "Hunting Dogs" is little behind Landseer. There are some curious and valuable copies of paintings in the chapel of Ferdinand and Isabella at Seville, sent by the Academy of Fine Arts of that city, and a few more curious than valuable contributions from Manila, Philippine Islands. The Spanish Government Pavilion contains, in addition, a number of drawings, photographs, and models, which will well repay examination. Although Spain has not quite done justice to her art, her entire representation is so complete and well-ordered that we are under special obligations to her commission.

In the same line with Spain, east of the Netherlands, the remaining two rooms, Nos. 7 and 11, are given to Denmark, Norway, and Sweden. Perhaps because we know less in the United States of the art of those countries, we do not experience the same sense of disappointment as France and Germany have prepared for us. The work is simpler, the aim less ambitious, and we can tolerate the frequent hardness and coarseness of execution when the reality of the subject breathes through it. In Denmark, we are sorry to find nothing from Madame Jerichau. Melby's "Midsummer in Iceland," and Rasmussen's three pictures are the only ones which must interest us. In Sweden, Bergh's "Pine Forest," Engström's "Bird of Prey," and Hermelin's "Fishing Harbor" please us more than any of the foreign subjects chosen. The figure pictures, except in genre, are hardly satisfactory, though we must make an exception in favor of Salmson's "Odalisque." Norway has 40 oil paintings, among which the landscapes easily carry off the palm.

The three remaining rooms at the eastern end, Nos. 9, 27, and 39, contain all that we have of Brazil, the Argentine Republic, Chili, Mexico, and Portugal. They are much more interesting as evidences of Art struggling into existence under the pressure of material interests, and perhaps other discouragements, than the displays of some older nations. Crude as are so many of the pictures, we find in all which are not conventional imitations of European art a rough stamp of truth—the originality of nature. There are some things before which the spectator may stop and say, "This is absurd!" but there are also many of which he will say, "This is sincere!" The landscapes and scenes of national life are all full of interest, apart from their artistic merit. It is remarkable that the few pieces of sculpture contributed by these countries should show better achievement than the paintings.

A more particular description of some of these exhibits will take up more space than can be spared. My purpose, as stated at the outset, is only to give that general survey which is serviceable as a preliminary to a more thorough inspection of all the separate collections.

THE ENGLISH PICTURES.

CHARACTERISTIC FEATURES OF ENGLISH ART.

PHILADELPHIA, Aug. 31.—The characteristic features of the English art of this century are remarkably well presented by the collection of pictures in Memorial Hall. The works of the different artists are so carefully selected and so compactly arranged, that the stamp of nationality—we might rather say of

race—is immediately and everywhere apparent. It needs no great familiarity with art to recognize this stamp. Even in running the eye rapidly over the walls, we notice a solidity of execution, an honest, sturdy apprehension of Nature, and a restriction of means to effects, which have their origin in the blood of the English people rather than in the teachings of any school. Many as are the transition phases between West and Maclise, or Fuseli and Millais, English art invariably seems strong and positive in intention, if not always in execution.

Even if the collection were made up of the very best works of each artist represented, it could scarcely be more instructive than at present. The single Fuseli and the single Barry illustrate in the most satisfactory manner the beginning of this century. The former's "Thor" shows the influence of Michel Angelo and the Elgin marbles—with a long interval between. It throws a clear light upon the quarrels and struggles of Haydon, and partly explains many passages in the literary history of the time. Barry's "Temptation in Paradise" is a most interesting record of a man whose career greatly resembled that of Haydon—an artist whose ideas were better than his work, and who quarreled bitterly with a generation which could not understand them. It was painted after his return from Italy in 1770, and must be nearly a century old. Although the flesh-tints are somewhat hard and cold, the picture is characterized by a noble simplicity of style.

The two pictures by West are more satisfactory than his large works. His "Death of General Wolfe" has a historic interest, as an innovation which ought to balance many deficiencies. It is the first instance of using modern costume in historical painting, and the step was no less bold than right, when West took it. The picture is well composed, and the action is spirited: the coloring, moreover, is much better than those might anticipate who know the artist chiefly through the assaults made upon him. There can be no question of his native talent, and he seems to have been chiefly held back from higher artistic success by the early ignorance of his colonial years, followed by a too-early fame in England.

Of the succeeding generation, there are two Wilkies, five small Landseers, one Turner, one Constable, one Northcote, one Opie and one Leslie. We are sorry to miss Haydon, whose name would have made the list tolerably complete. Wilkie's "Reading the Gazette" is in his characteristic style. It has all his firmness of drawing, power of facial expression, and solid simplicity of color. Constable's picture will interest every one, as a specimen of the revival of true landscape art in England. He never blends earth and sky, even in his distances, as so many of our American artists are accustomed to do—probably because they see so much of it. His air is air, and his earth earth: his meadows can be walked upon and his trees climbed. Turner expresses the opposite form, of landscape spiritualized, or interfused with moods of the imagination. Hence he cannot be properly understood from any single picture. His "Dolbadden Castle" is not one of

his most famous works, yet it expresses much of the subtle quality of his genius.

Etty is celebrated in England for his painting of flesh. His "Sleeping Nymph and Satyrs," in this collection, is a good example of his style; yet, while his coloring has a great deal of warmth and vitality in light, the shadows have an unpleasant brownish tint. The picture, however, is not advantageously hung, as is the case with many others, owing to the crowding of the space. We find nothing from Eastlake and Shee; but there are enough painters of the same class represented to illustrate the Academic style in England. We shall find it to be thoroughly prosaic and respectable; less despotic than of old, and more inclined to accept (after success) new departures in Art, while discouraging them on principle. Sir Francis Grant has three portraits, and the examination of them will convince us that the Royal Academy might have had a worse artist for its President.

There is always a dense crowd around two of Frith's paintings, "The Railway Station" and the "Marriage of the Prince of Wales." Their hard, honest, careful realism is instantly understood by the multitude. The appositeness, the individuality and the finish of each figure seems to detach it for the spectator's eye, while it keeps its proper place in the group. This, combined with the restricted realism of the color, makes the engravings of Frith's pictures almost equal to the original paintings. The "Banquet Scene from Macbeth," by MacIise, is far more ambitious in its aim than Frith's spacious illustrations of the life of our day, yet by no means so successful. It is melodramatic in the highest degree, and the tawdriness of its color is not atoned for by a certain amount of professional skill. Allston's little picture of "Spalatro's Vision of the Bloody Hand," in the American collection, is a much more effective attempt to represent the horror inspired by seeing the invisible.

The heads of Millais and Holman Hunt are equally excellent and interesting. The former gives us one of those clear-eyed, pink-cheeked young English girls, just approaching maidenhood, whom he loves to paint. The latter sends his own portrait, a rugged, irregular face, with not a line omitted or smoothed,—a singularly frank, independent, and lovable countenance. The two pictures show that if the artists formerly united in the same movement, and preached the same doctrines, it has in no way interfered with the character of their work. They have been alike in their aims, not in their choice of means; neither could have done the other's work. Among the water-colors there are many more illustrations of the same school.

We have not space here to make a careful examination of the works of the younger artists; but the well-known names of Boughton (half of whom we claim as an American), Orchardson, George Leslie, Prinsep and Eyre Crowe, will call attention to their pictures. There are also three striking works by Alfred Elmore, an artist whom we hardly know in this country, as yet. His "Lenore," from Bürger's ballad, is very weird and powerful.

THE CASTELLANI ANTIQUITIES.

VALUE OF THE COLLECTION—ANCIENT STATUES—BEAUTIFUL BRONZES—PERSONAL ORNAMENTS.

PHILADELPHIA, July 27.—One of the most interesting and instructive exhibits at the Centennial Exhibition is the collection of Greek and Roman antiquities, objects of medieval art, and Italian majolica, belonging to Alessandro Castellani of Rome. The collection (excepting the majolica, now shown the public for the first time), comes to America by way of London, where it was exhibited for some weeks, and attracted a great deal of attention. The trustees of the British Museum were anxious to have the Government buy it, and the matter was brought before the Treasury, but Mr. Disraeli thought that the condition of the budget would not warrant the expenditure of the sum necessary—£40,000—and the project had to be abandoned. It should be said that a chief reason for the anxiety to obtain possession of these antiquities for the Museum is that they supplement, and in certain respects complete, the famous collection bought of Signor Castellani a few years ago. Should they go back to England, another effort will doubtless be made to keep them there, but I hope, and I have reason to believe, that they will remain in this country. Even if no one of the American museums can afford to buy the collection as a whole, two or three together can; and an arrangement of this kind is practicable, because the collection consists of several distinct classes of objects, some of them—for example, the dactyliothea—complete in themselves, which could be taken permanently or for given seasons by the parties purchasing. As to the price asked, large as it undoubtedly is, it is not exorbitant. Americans must remember that the increasing competition for the possession of authentic works of ancient art, and the jealous care which is taken by the governments of those countries where excavations are now making to secure to themselves whatever is valuable, render the formation of private collections extremely difficult; so difficult, indeed, that one may reasonably doubt whether in the future any one individual will be able to get together such choice examples or such full and complete illustrations of the progress of ancient and medieval art in certain branches as are here shown by Castellani. But supposing this possible, it again is doubtful whether persons in this country would have an opportunity to buy them were they for sale. And as Americans cannot expect to enrich their museums except from private sources, they should by all means avail themselves, if possible, of this rare chance to secure at one purchase several collections, all of them sufficiently full for purposes of illustration and study, and some of them, as I have said, complete in themselves.

THE MARBLES AND BRONZES.

The collection is arranged in a suite of three rooms opening from the east corridor of Memorial Hall. The first room contains the marbles and bronzes; the second, the majolica; and the third, the gold ornaments, the engraved gems, and other articles of personal adornment. I will begin with the marbles.

There are 16 marble busts, mostly portraits of the imperial time of Rome; two statues, a Bacchic mask, and a comic mask of Hercules. The statues, which are the most important, are totally different in spirit and style of execution. The first is an intensely realistic Greek work. It is called the "Spinario," and has many points of resemblance to the well-known statue of that name. It represents a naked lad seated upon a low rock, busily engaged searching for a thorn in his foot. The left leg is drawn up and crossed over on to the right knee, and the body is bent nearly double in the effort to see the wound. The portion of the right leg from the knee downward is missing, the left foot is broken, and both hands are somewhat injured; the rest of the statue is in fine preservation. The sculptor has aimed to produce in the marble a copy, exact to the minutest details, of the contours of a figure placed in this awkward and constrained position. No attempt is made to idealize or soften a single line. The folds and creases of the skin, the supple bend of the back, the tension of the muscles, each and every detail is produced with scrupulous fidelity and consummate skill. It is a surprisingly beautiful example of a rare school of art. The second statue is a Dionysius, or Indian Bacchus of the familiar type seen in the (so-called) Sardanapalus of the Vatican, of which this is a replica, and in the many engraved images of the god. The figure is colossal. It is draped in a mantle and tunic, the former drawn around under the right arm, across the body, and over the left shoulder. The tunic reaches from beneath the mantle to the ground, covering the feet and slightly indicating the position of the right leg. The drapery is admirably arranged; the massive folds of the heavy mantle forming a fine contrast to the straight lines of the lighter tunic, and adding greatly to the majesty of the figure. The right arm, which held the thyrsus, is broken off at the shoulder—otherwise the statue is in a wonderful state of preservation. The face, hair, and beard are as sharp and clearly defined as if they had been chiseled but yesterday, and the expression of the face is one of commanding dignity.

Among the marble busts are several unknown portraits: a head of Trajan, of Julia Paola, of Tiberius, of Lucius Verus; a pretty pair—Cupid and Psyche; a perfect Euripides, and a youthful Apollo and Bacchus. These two latter, though somewhat bruised about the mouth, are exceedingly beautiful. The Apollo has not the lofty, noble look seen in the highest type of the god, but is of a lower and rather sensuous order. The Bacchus has a sweet, effeminate face of great beauty.

In the same room with the marbles are the bronzes. They are arranged in two cases. In one are no less than twelve of those rare caskets (*cista*) found in Palestrina, the ancient Praeneste, which were used by the Etruscan ladies to hold the implements of the bath. How luxurious these ladies were and how various were their toilet appliances is seen by a glance into the second case, which contains the combs, mirrors, and mirror-cases, the oil-flasks and boxes for unguents, the strigils or scrapers, and other articles found in the *cista*. They are all of bronze, and, like the caskets, highly ornamented. The caskets are round

and oval boxes, with covers, about 12 inches high and somewhat less in width. They are of very thin metal which would soon corrode away on exposure, which accounts for their extreme rarity at the present day. There are not more than a hundred all told. They are mounted on curiously-carved feet of the same manner of workmanship as the handles to the covers, which are formed of one or more human figures in the round, usually in contorted attitudes. The lids and sides of the *cista* are covered with engravings, some representing scenes from the *Aeneid*, or from the tradition which furnished Virgil with his theme, and others portions of the story of Atalanta. The engraving is by no means equal on these pieces, portions of it being very skillfully done, and other parts showing only coarse and slovenly work. Whether this engraving was done by the Etruscan metallurgists is doubtful, but the figures certainly are the production of these famous artisans. The work on the small articles found in the *cista*, while of a like character with that on the caskets, consists mainly of outline ornaments and figure subjects surrounded by borders and friezes of conventional flower and leaf patterns. On one side of this room are several of the tall bronze candlesticks, such as are in use in smaller sizes in many parts of Italy at the present day.

THE PERSONAL ORNAMENTS.

As the personal ornaments may be taken in sequence to the bronzes just described, I go next to the room where they are arranged. Here from the necropolis of Praeneste are ornaments belonging to the bronze period; rude fibulae or necklaces, armlets, and ornaments for the hair. Beside them is a case of amber; some of the pieces being simply pierced by a hole in order that they could be strung together, the substance seemingly being too precious to be cut, and others carved with quaint devices adapted to the shape of the piece. In the next case are several fibulae of the Etrusco-Phoenician period, found in the cemeteries of Etruria, with scarab beads, and figures in glass and silver, plated with gold. Next come the gold ornaments from the ancient cities of Caere and Clusium; specimens of the earliest Etruscan work in that ancient art of granulating gold—an art preserved only in tradition for centuries and but recently rediscovered, I think, by Signor Castellani's brother in Rome. Among the specimens here exhibited are some of the finest kind, showing that the art was at its best, and others again of an earlier and coarser quality. The articles are in both cupulated and uncupulated gold. There is a small flask shaped something like an amphora, in which the minute globules of metal are soldered to the surface in fine zigzags and other patterns of great delicacy. Another fine specimen is a strip of gold with granulated lines, between which is a row of birds in relief. Just above this is a beautiful rose-shaped ornament, with a finely carved head in the center, and beside it is a lovely wheel of gold, ending in acorns of exquisite workmanship. From Magna Graecia, the cities of Metapontum and Tarentum yield ornaments of the Italo-Greek style, made 350 years before Christ. Here are ear-rings and ornaments in gold (whose use is uncertain) of unsurpassed beauty and excellence. A pair of helix-shaped whorls, terminating in nobly carved women's heads; an ornament like a brooch, with elaborate rosettes and pendant; a pair of dolphins; fibulae of stars and birds—all show the work of master

artists, and indicate this as the best period of the goldsmith's art. From Vulci and a period 50 years later are necklaces and earrings and pendants in gold and colored enamels, perfect specimens of the new method already influencing and hastening the decadence of the nobler art of working the pure metal. These butterflies and birds, resplendent in green, and red, and blue enamel, the cupids and winged animals, spirited in design but over-elaborated and too minutely finished, give us glimpses of the Old World luxury such as no words can convey. The excavations from which these precious ornaments were taken were made by Prince Torlonia. So rare are they that the British Museum has only one specimen. From Syria are fragments of rich diadems, medallions, and bracelets of the Ptolemaic period of Græco-Egyptian art. Here is a remarkable band or spray of vine-leaves with pearls for grapes, and beside it grotesque figures on pins and earrings, with a general lack of refinement in the design and finish in marked contrast with the Italo-Greek work. Following the decline of the art under the successors of Alexander, we have Italo-Greek funeral ornaments of an era 100 years before Christ, then the gorgeous jewelry of the Imperial time, when gold was largely used as a mere setting for emeralds, garnets, and other stones; and, finally with some examples from the times of Charlemagne, when the workmen had lost their cunning, and the noble metal had been altogether debased to secondary uses, the collection ends.

In the same case with these ornaments are several Roman gold coins of the Imperial times, still in the settings—a rare thing—in which anciently they were worn as decorations. Here, too, is a set of toilet articles in silver—a mirror in its case, a strigil, a flask, and a small, round box, divided into four compartments for cosmetics—once the property of some wealthy Roman lady. Here also are a fine collection of bronze and silver military ornaments of the eleventh, twelfth, and thirteenth centuries, and some heavy gold articles of adornment in the Lombard style.

The dactyliothea or collection of engraved gems contains upward of 270 specimens. They have a case to themselves, and a number of them are framed and hung up, so that they can be viewed by transmitted light and their exquisite workmanship studied to advantage. The collection forms a complete history of the glyptic art from the earliest times down to the fifth century of Christ. Here are Assyrian cylinders from Nineveh and Persepolis; Phœnician, Etruscan, and Greek scarabs, amulets and amular gems in intaglio and cameo—many of them published and known to collectors as among the most noteworthy examples extant. There are mythological subjects and imperial portraits on sardonyx and sard, and Greek engraved gems are numerous. Thus in this one collection is to be seen the refined execution of the early cylinders and scarabs, the Greek and Roman intaglios—where beauty of design is the theme—and the Roman cameos, with their more or less realistic portraiture. The student can ask for no more than this.

Of rings, principally gold, there is a collection of upward of 350, extending from the earliest Tyrrhenian to the end of the sixteenth century. Besides gold, there are rings in silver, bronze, glass, amber, ivory, and several kinds of stone. Many of them are of special interest to archaeologists. One contains an intaglio portrait by the engraver Apollonius. Another is a superb piece of carving in amber. Here are examples of the various styles that obtained among the ancients and in mediæval times, from the monstrous seals as large as a silver dollar and an inch across, loaded with ornamentation and figure devices, to the coiled snake—which seems to have

been a favorite form—and the plain gold band, without a line of chasing or engraving of any kind.

MAJOLICA.

The inner room of Memorial Hall contains the majolica ware of the Castellani collection. It consists of some 400 specimens, illustrating the progress of the art in Italy by examples from each one of the famous fabriques, and forming altogether such a display as has never been seen in this country. The cases around the sides of the room contain the pieces arranged chronologically; another case in the center of the room has single examples of each fabrique forming a group which epitomizes the history of the art. It will be quite impossible within the limits of this letter to do more than indicate in general terms the astonishing richness of this collection.

Beginning with the small case on the right hand, we find there nine pieces of the very rare Siculo-Arabic ware dating from the twelfth to the sixteenth century. It will be remembered that the Arabs, crossing from Africa, and bringing their art with them, occupied Sicily, and thence penetrated Southern Italy. In the form and decoration of the earlier of these specimens we see plainly the Persian influence just as in the earlier Italian ware the Saracenic influence is evident. An interesting specimen is an ovoid vase, covered with a silicious glaze, decorated in the Persian manner around the body with blue and black figures of gazelles, and an Arabic inscription around the neck and stand. There are two other examples of this character. Besides these are vases of various shapes and sizes, with and without handles, bowls and basins with metallic and copper luster. Of the latter is a superb early specimen, a basin decorated with large *rosasse* in relief; in the center a heraldic shield bearing the device of an eagle; the whole covered with a net work of copper luster.

BELGIAN ART.

PICTURES, STATUES, AND DECORATED FAIENCE.

PHILADLPHIA, Sept. 13.—The Belgian Exhibit of Fine Arts is contained in one room in Memorial Hall, Room "O," and three in the Annex, Rooms 33, 39, 41. Originally there were two rooms in Memorial Hall allotted to Belgium, "M" and "O," and they are still so allotted in the Plan of the Building in the Catalogue; but when the Russian pictures, which were so late in coming, finally arrived, they found no place ready for them, and so Room "M" was given up to Russia, as Belgium really had no need of it. These small rooms on the north side of Memorial Hall are ill-suited to works of Art. The Russian room is crowded, as well as poorly lighted, and it will be found that two of the best specimens of Russian sculpture have, in consequence of this crowded state of their own department, been obliged to ask the hospitality of Belgium; at least, so I interpret the presence in the Belgian room of two heads in marble, both Russian in subject, "The Drunken Moujik," No. 191, and "A Russian Peasant Woman," No. 192, by Godebsky, which is certainly a Russian or a Polish name. These are two clever pieces, both in expression of character and in their execution, and it is a pity that they should not have been placed where their excellence would tell for the country of the artist, instead of going, as they do now, to add to the reputation which is gained for Bel-

gium by the works of her own sculptors, Fraikin, Fassin, Laumans, and one or two more.

In Room "O" of Memorial Hall the Belgian Exhibit consists of about a dozen pieces of marble sculpture by Belgian artists; a good many small terra cottas; some artistic brasswork, consisting of huge dishes, a few plaques of beaten work, and the fittings of a fireplace, and about sixty pieces of decorated faience. These, with the photographs of the works of that nine days' Belgian wonder, the late Mr. Wiertz, make a small collection which would be much more attractive than it is, if it were not doomed to a half-lighted room. The faience especially (for the sculpture takes to itself all the light there is, and so comes off reasonably well) should have been put by itself in the Main Building; it is individual in its character and interesting, and would not have suffered by comparison with any of the modern work in the Exhibition. In this room it is crowded into the corner furthest removed from the window, and is so huddled together on the shelves that it is a difficult task to keep the works of the different artists distinct from one another while studying them. Forty-three pieces out of the lot of 60 pieces are entered under the name of Edward Tourteau of Brussels, but the styles of these specimens are so varied that we suspect some collaboration. If this be not the case we may be allowed to praise the artist for his freedom from mannerism. His exhibit contains vases, pots, dishes, plaques, and various small objects, match-stands, ash-trays, and so forth, and the subjects are as varied as the forms, while in coloring some of the larger pieces are dark, rich, and strong in their combinations, while others are light and cheerful. The tone of some of the larger pieces reminds us of much of the Limoges faience sent by the firm of Haviland & Co. of New-York, though Mr. Tourteau's work is veritable painting on a smooth surface of earthenware, while the Limoges work is rather a species of enameling applied to a surface rough with modeling. But we speak rather of the tones themselves than of the style in which the surface is handled. Other decorators, whose work is in this room, are Mr. F. X. Volkaerts of Brussels, who colors in a light and airy style; Mr. Adolphe De Mol, who has painted on plaques with much spirit, two or three Bacchantes dancing and playing the tamborine; and a Mr. Dange, whose work is also strong, and leans to the school of Mr. Tourteau, while Mlle. Georgette Meunier copies on her ornamental plaques the plump Cupids of Boucher and the Diana of Vouet.

The artistic brass-work in this exhibit is all by one hand, that of Mr. J. J. Labaer of Antwerp; it is rough and manly work, very effective, and the artist has succeeded in avoiding the mechanical look of much of the English and French metallic work, and his dishes smack strongly of the time when the coppersmiths, brass-beaters, and blacksmiths worked mostly with their heads and made small account of tools.

Among the sculptors whose productions are in this room, we recur with pleasure to Fraikin, a few casts from whose works were brought over to this country many years ago and exhibited somewhere in New-York. One piece we have always remembered, a Cupid, or rather an Infant Sea-god asleep in a shell, a figure that seemed to have been suggested by the Child on a Dolphin, which is attributed to Raphael. A cast of this figure by Fraikin is now in the Philadelphia Academy of the Fine Arts. Thanks to the enterprise of our dealers and to our changed relations with Europe, those of us who are interested in the matter can now get knowledge of what the artists are doing in Europe. We get

bronzes, casts, and photographs of the sculptures of the day, and see almost as much of the painting that is produced from year to year as the people in Europe do themselves. Not many years ago, however, this was different, and it may be the pictures and statues that came over then made more impression on us and are better remembered than those that are brought over today in such crowds will be. Fraikin has two statues here, both in marble—"The First Child" and "The Humble Bee"—the latter, a little child trying to catch a bee with her shirt, being much better, more we should say within the artist's powers than the statue called "The First Child," which is a sort of combination of Greuze and Boucher that naturally does not turn out very successfully. In the early work to which we have alluded, Fraikin produced a true piece of sculpture, but in these marbles he has not very successfully competed with the Italian carvers of images on their own ground.

Fassin's best work is his "Neapolitan Water-Seller," a cast of which in galvanoplastic is in the Belgian Room No. 41 of the Art Annex. The water-seller, a boy of 14, steps lightly along with the water-bottle set flat on the palm of one uplifted hand, and in the other hand the jug from which it is to be refilled. He is naked except for the waist-cloth, that concession to British prejudice which was made by the Neapolitans some few years ago, and which has since been followed by a complete surrender to respectability and discomfort on the part of the inhabitants. His figure is well-modeled, and the set of the shapely head crowned with its abundance of crisp hair, and the spirited, handsome face beneath make a statue that seems to me one of the most attractive in the Exhibition. Other work of Fassin's is here—two character heads, "Roma" and "Napoli," passably pleasing, but nothing very distinguished. Messrs. Rodin, Lefever, and Comein contribute a crowd of small works in terra cotta which are superficially clever, but need not detain us.

Passing over to the Annex we find the Belgian pictures, which are almost as little satisfactory representatives of the Art of Belgium, as those of her greater neighbor, France, are of hers. The artists whose pictures are worth looking at are François Musin, Nos. 7 and 155, "The Harbor of Rotterdam in Rainy Weather," and "The Shore at Scheveningen," coarse in execution, but with atmosphere and distance, and generally a look of being the outcome of individual observation; Robert Mols, whose "Dome of Les Invalides," and "View at Saxenhausen," Nos. 13 and 136, show inequality of executive power. The Dome of the Invalides is a well chosen subject, and though somewhat made up in composition yet has the merit of being not only a sufficient portrait of the place, but a clever picture, while the "Saxenhausen" may be a good portrait, but is much muddled in the drawing, and the figures which are prominent in the composition are mere lay figures. This is as well, perhaps, since real pleasure-seekers would look very uncomfortable sitting out in their best clothes in the soggy grass of a river side. On the whole, the landscapes in the collection are not likely to impress our public with a sense of any inferiority on the part of American artists. There is certainly no work here comparable to that of our own McEntee, Whittredge, Kensett, and Gifford.

Among the figure pieces that deserve mention, if for no other reason than that they please a great many people, are Stallaert's "The Cellar of Diomedes—an episode of the Destruction of Pompeii," Franz Vinck's "The Confederates in the Presence of Margaret of Parma," Ernest Stengeheyer's "Christian Martyr," and his "The Night of St. Bartholomew," with Oom's "The

First Ice of the Season," and Madiol's several small pieces, "Don't Let Him Fly," "Hesitation," and "Making Pancakes." The pictures of Vinck (beside the one first mentioned), of Jules Wagner, of Victor Lagye, and of Theodore Cleynhens are all more or less clever efforts to masquerade in the garments of the late Baron Leys. The "Flemish House of A. D. 1600," by Mlle. Clémence Van den Broeck, is an amusing and well-painted study of old china and old furniture in a more individual style than that of her other picture, "The Visit," where the motive is the same—a desire to paint the belongings of a past age. Miss Van den Broeck is an artist of real ability; she proves it by her Flemish Kitchen; but she shows a want of judgment, we think, in crowding her composition with such a bewildering multitude of things. "The Christian Martyr," of Stengeneyer has been made popular by engraving and by photography, but it is rather the subject itself than the way in which it is treated that pleases, we judge. There is a very clever artist trick in the beam of light that falls across the sleeping victim from between the opening door and its jamb, but here, as always, the trick is successful by its trickery, not by its truth. The beam of light could not have this intensity in nature, because a sunlight out of doors strong enough to produce it would be strong enough to neutralize it when the door was as much opened as it is here. It was necessary for the door to be opened to show the amphitheater and the expectant populace, but the sunlight had to be weakened to permit the touch of the beam of light to be successful. Then, again, the young man is supposed to be sleeping tranquilly but soundly. He does not hear the wild beasts roaring within a few feet of him, nor does he hear the opening door nor the roar of the multitude. How then does he hold that wooden cross so ostentatiously upright in hands that ought to be relaxed? Simply because the artist wishes by means of it to write, "This is a Martyr" on his picture. As an academic study the picture is not discreditable, but the close shorn head of the boy deprives the picture of an element of beauty, and beauty is what it sadly needs. The other picture by the same artist is a mere piece of melodrama, neither well composed nor well painted. This artist belongs to the older school of De Keyser, Pauwels, Wittkamp, and the rest, who once had a great following, but whose influence has declined with the study of nature and the growth of a truer feeling.

Mr. Joseph Stallaert's "The Cellar of the House of Diomedes" is a rather stagey but still a rather impressive picture. The artist tries to people for us that famous cellar of Pompeii which to-day is empty of all but its empty amphorae ranged against the wall, but which in the city's fatal day became the tomb of a whole family who thought they were safe there from the storm without. The House of Diomedes, so-called, was one of the richest in the city, and it has been uncovered in its whole extent. In the cellar were found the skeletons of the entire family just as they had perished nearly 1,700 years before. They had taken deliberate refuge here, and had provided themselves with provisions and had brought such of their valuables with them as they could collect. The lava ashes sifted in through the windows and suffocated them, and filled up the cellar from the floor to the ceiling, and finally hid the whole house, with the rest of the city, from human sight. Doubtless the terror in this place was no greater than in a hundred other places. During the time the whole population was being more or less slowly tormented to death, but we feel the terror of this episode more than we feel the others, because we stand in the scene of it, and can bring it in some degree back again by thinking and by imagination. To us, the most terrible things in Pompeii were those ghostly amphorae ranged against the walls just as the most pathetic thing—more pathetic than the impression of the young girl's budding breast that is left in the lava—was the marble bust of Rufus still standing in the atrium of his own wasted house. But the more the reader tries to make the story of the House of Diomedes clear to his imagination the less we think he will be satisfied with Mr. Stallaert's version of the final

scene. It is a tale whose horror cannot be well told if we can survey it with critical indifference. To our thinking, the best figure in the picture is that of the little fellow who stands in boyish, manly despair by his mother's knee. C. C.

FRENCH ART.

PICTURES, STATUES, ETCHINGS.

[First Article.]

PHILADELPHIA, Aug. 30.—No picture in the French collection attracts more curious spectators than the "Rizpah protecting the bodies of her sons from the birds of prey" of Georges Becker. I say "curious spectators" advisedly, for the picture certainly finds few admirers. This mighty canvas with its great gallows decorated with shields and spears, the trophies of battle, and along whose ghastly transom the naked bodies of five men are suspended, while on the ground below them, a woman, powerfully built and wrought up to fury, threatens with a club an eagle who seems to be attacking her with beak and talon—the canvas that is filled with such striking incidents as these would undoubtedly fail of much of its purpose, if it did not attract curiosity at least.

It turns out that few people can make out by looking at it what the subject is, and when they find it is a Bible story, it proves to be one of those obscure episodes in the Old Testament with which we are seldom brought into contact in these days. People do not carry their Bibles about with them, and when they get back to their homes they do not remember the picture with sufficient interest to make it necessary to their intellectual peace to hunt the story up, and so to most of us it remains as unexplained as ever.

Nor do those who take the trouble to piece its fragments together, find the result a satisfactory whole. It would be out of place to retell the story here with all its details, but it may be well to recall the fact that these men and boys whom we see hanging to this gibbet have been given up to the Gibeonites by David, to be slain as a peace-offering, to put an end to a famine that was desolating the land. Saul had borne hard upon the Gibeonites, and had pushed them out from taking any share in the confederacy of Israel. When the oracles of God were consulted as to the causes of the famine, the answer was, that it was the penalty of Saul's treatment of this tribe. To avert the plague, David permitted the Gibeonites to revenge themselves upon Saul's descendants, and accordingly the two sons which Rizpah had borne to Saul, and the five sons which Michal, Saul's daughter (and once David's wife, be it remembered), had borne to Adriel, were given up to the vengeance of the Gibeonites. In consequence of this atonement, we are told that "the Lord suffered Himself to be entreated, and the plague was stayed."

Among the curious workings of feeling betrayed in this singular story we may note that David did not include Mephibosheth, another grandson of Saul's, in this dreadful conscription, because of the love that had been between himself and Jonathan, who was the father of Mephibosheth, and we may muse as we will upon his treatment of Michal, from whom he took her five sons, probably all she had, as after she had ridiculed David for dancing in his shirt before the ark, David cursed her, and she never bore children any more. We are told that Rizpah protected the bodies of the slain from the beginning of the barley harvest to the end of it, and that she suffered not the birds of heaven to rest upon the bodies by day, nor the wild beasts by night. This last circumstance, with the fact that she spread sackcloth on the ground, may be taken to imply that the bodies did not

remain upon the gibbet, but were cut down and left on the ground, as wild beasts could hardly have climbed to the top of any gallows.

However, for pictorial effect Mr. Georges Becker has a right to his own interpretation; only it presents him with another difficulty, since if the birds of prey had chosen to mount upon the shoulders of the victims they could have pastured there in quiet and taken little heed of Rizpah and her club! A greater puzzle is why the artist should have taken so ghastly and repulsive a subject at all. The story has too little moral in it for us and our times to make it worth so much paint and canvas, and there is so much in it that is inhuman, superstitious, and detestable that the maternal devotion of Rizpah, and even her unselfishness in watching over the bodies of five sons of another woman cannot counterbalance it.

But, in truth, we waste words in discussing the whys and wherefores of a French artist's choice of subject. Mr. Becker is a strong young man, fresh from his studies. He yearned to startle Paris at her annual salon, he felt able to do it, and he accepted this subject because it gave him all he wanted, something bloody and terrible, and with action enough to give him difficulties to overcome—the study of the nude, a mass of drapery, and drapery in motion, and a fierce eagle, to show that his studies had not been confined to the Academic models. Since Henri Regnault set the fashion so strongly for bloody and ferocious subjects, there has been an ample supply of such, and it may be admitted that Becker's picture is rather less horrible than a strict compliance with the public taste in France would have called for. Artistically speaking, the picture shows considerable promise, but it is to be hoped the painter will find subjects that will give his powers all the scope they need without making so painful an impression upon our minds. To be great it is not necessary to go into spasms. Indeed, the going into spasms is a sure sign that you were not born great, though you may come in time to achieve greatness. We may add that, as a picture, this work is done great injustice to by being hung where we cannot get far enough away from it to lose sight of the coarseness of the painting in the general effect. It is so impossible to see it as it should be seen that it may even be unfair to criticise it at all.

The next picture in importance in the French collection is the Portrait of Mlle. Croizette of the Théâtre Français, by Carolus Duran. This is another canvas of uncommon size, to begin with, and by virtue of its size alone it must attract a great many eyes. In this case, however, there is much to fix the eyes when once they have been attracted, for the lady is exceedingly pretty, and Carolus Duran is a very clever and dashing painter. He is chiefly known by his female portraits, and those by which he has gained the most laurels have been full-length portraits of handsome women, either distinguished themselves, or the wives of distinguished men, and generally dressed in striking and pictorial costumes. Among the French etchings, which fill the northern end of the main corridor of the Art Annex, there will be found one by Léopold Flameng of Duran's portrait of (we believe) Madame Ernest Feydeau. In speaking of Duran's pictures this is sometimes distinguished as "The Lady with the Glove." This is a little grandiloquent, to be sure, but then that is Duran's style. His real name is simply Charles Durand, but he has given its mustaches a twirl, and it takes the style of "Carolus Duran," which suits better with the artist's pictures. However, he set a fashion with these superb women, with their stylish dresses and their manners of the Second Empire, and one can see in the

same frame with Flameng's etching of Madame Feydeau another, equally brilliant, of Bonnat's, "Madame Pasca," a figure that recalls the heroic days of the stage. She is dressed in a robe of thick, white silk with a border of fur, and, further on, the visitor will find M. Potemont's etching of Jules Goupil's "La Merveilleuse," which is, as he will see, only another species in the genus discovered by Duran. The present picture of Mlle. Croizette is in a quieter taste than is usual with the artist, and shows his versatility—shows, too, the limits of his power. Nothing is really gained for the subject by this spread of canvas; the delicacy of the lady's figure and the prettiness of her face are not in keeping with this amplitude. But in the hands of a real master this would have made less difference, since Gainsborough, or Reynolds, or Velasquez, or Titian, would have known how to use all the space at command to make his personage dominate the picture. Here, the sea, the sky, and the horse swallow up the little lady. If we bring Duran into comparison with these great names, it is because that claim has been made for him that he brings back the famous days, and opens a new era for France. Yet with all his undoubted power of handling, his mastery of the techniques of his art, he is but a painter of the outsides of things, just as Carpeaux was but a sculptor of the outsides of things. Neither of these men does any thinking, in the high sense of the word, and, therefore, neither of them can be the cause of thinking in others. Such charm as Carpeaux had was merely superficial, and such charm as Duran undoubtedly has is only superficial too. He is a fashion now, just as Reynolds and Gainsborough were the fashion in their day, but, if we can read his work aright, it will never be his fortune to be the fashion again, a hundred years after his death, as has happened to the two great Englishmen. For the trouble is that these distinguished Frenchmen are not merely superficial (much that is superficial has a deal of wear in it), they are masquerading in other men's attire. It was Michelangelo who writhed and twisted the limbs and bodies of Carpeaux's figures, and it is the laurels of Velasquez that will not let Duran sleep. But immortality never comes to those who copy, no matter how cleverly they conceal their copying, even from themselves.

There is a little picture in the room that contains these big ones for which we bespeak more consideration than it is likely to get in the corner where it is stuck. It is not a great picture, nor does it pretend to be, but it is perfect in its kind. It is Eugène Feytaud's "Regatta in the English Channel," No. 41, and it hangs close by the door that leads from this gallery into the Central Corridor. If the visitor will give himself up for a few moments to this small canvas, and study its multitude of figures, he will admit that cleverness could hardly go further in seizing life, expression, gesture in individuals, and in giving one purpose and direction to a crowd. There are French peasants at some Trouville, Etretat, or Dieppe out for a holiday, watching the course of the regatta. We do not see much of the sailing, the picture is made up of the people. There is the most astonishing variety and invention in these groups, and an individuality in the separate figures that shows the artist to be an observer of exceptional power. If with this picture as a standard the visitor will look at other pictures in the Exhibition in which a good many figures are introduced (there is, however, no picture here in which near so many are to be found), he will see how great a difference there is between the best of them and this. Here are hundreds of figures, the nearest ones not two inches long, and the major part of them dressed in the uniform of the French peasant class in any particular district. Yet no two of

these figures are alike in anything but dress, and even this is worn (as it always is) with a difference. Nor are the people attitudinizing, playing at watching the regatta but really thinking of the spectator. They have forgotten all about us, if ever they knew we were looking at them, and the whole assembly has but one heart and one mind for the moment. Compare with this little picture the pictures of Mr. Frith in the English gallery, "The Railway Station," and "The Marriage of the Prince of Wales." The English pictures are more superficially interesting, but the more they are studied the more made up and theatrical they seem. Mr. Feyen's picture is one it is impossible to weary of, because it is founded in sincerity and in the closest study of nature, without pretension and without caricature.

In the same room are to be found a few other pictures that will merit study. Prion's "School for Young Satyrs" has a good deal of life in it, but little of either classical repose or of classical spirit, which, by the way, is just as good of its kind and just as characteristic as the "repose" of which we hear so much. The objection to these satyrs is that they are only playing at being satyrs, or, if real, they have lost their old character, and are become modern in their loss of gayety and unconsciousness. The animating principle of this merry group is "business." The old satyr evidently thinks "there is money in it," and, if it be not too cruel a translation of this scene, we should say that it made us think of Fagin instructing his pupils in the arts by which they were to get on in the world.

"The King's Entertainment," by P. C. Comte, is also a clever piece. The archæology is learned, but it is not oppressive, and there is a great deal of real humor in the situation, indeed it seems to us remarkable that with such a subject—a man has brought some trained pigs into the bedroom of Louis XI., and the sick King enjoys seeing them dance to drum and tabor, dressed up in the costume of a gentleman and lady of the time—there should be no trace of caricature. Yet everything is kept soberly down to the probabilities of the scene. The King is soberly amused; the grave physician, who stands at his side, may have his pleasure in the show, but will not betray it. The two monks by the fire-side are horribly scandalized, but cast furtive glances, and forget their beads for a few moments. The owner of the pigs pipes away soberly as if pigs and men were all one to him. Behind the curtains, at the foot of the bed, the wife is training another set of little grunTERS for the next part of the show. They are the learned ones, and are to solve some arithmetical problem. She holds up her fingers, and makes them rehearse their rudiments.

Two "sheep" pictures by Mr. A. F. Schenck, an American who by long living in France has become almost a Frenchman, justify his reputation as one of the cleverest of animal painters in the second rank. He belongs rather to the English school of Landseer and Ansdell than to that of Jacques, but his pictures seem to us more spirited than those of Ansdell at least, and far more interesting than those of Verboeckhoven. A picture that gives much pleasure is Truphaine's "Drawing-School." There is much of the same essential earnestness in it, a result of the close following of nature, that we have praised in M. Feyen's little picture. And before leaving the gallery we must not forget Dumaesque's "Congress of Geneva, 1873," which is one of the best portrait groups we remember. The painting is in a style that requires the spectator to be at a little distance from it to see it well, but it is easy to see it as it hangs. The artist is evidently no flatterer, and one or two of his subjects may wince at his remorseless dealing with them,

but better portraits than those of Mr. Cushing, which the Frenchman spells "Cuching," Mr. Evarts, and Mr. Bancroft Davis, we are not likely to see.

There are a few other pictures in the gallery and in the corridors at which one glances, Brunet-Houard's "Interior of a Menagerie," No. 65, in which the flayed body of a horse is made good pictorial use of; A. R. Veron's "Storm—Entrance to the Harbor of Boulogne," No. 6, where there is wind enough on the pier to make up for the want of it on the water; and F. A. Bartholdi's "Old California" and "New California," which have grit in them, though the "New California" is a rather hopeless sort of idyl to try one's hand at. The old lady is more at home in the first picture, where she is helping her sons and husband in their gold-washing, than in the second, where she is enjoying the rewards of her labor. The fate of the husband, however, deserves and shall receive our deep commiseration. In the first picture he is taking the place of a mule in grinding at the wheel like another Samson, and a more depressed old person we have never seen. In the second he is made to suffer (we suppose for the profane language he used during his first period) by being stuck upon a wooden settee, too short for his legs and with the sun in his eyes while he tries to read the newspaper. "Have I lived a dog's life," he seems to say, "to come to this after all?"

C. C.

FRENCH ART.

GENERAL FEATURES OF THE FRENCH EXHIBIT.

[Second Article.]

PHILADELPHIA, Aug. 30.—It has been said so often that the French Art contribution to the Exhibition does no justice to the past achievement in Art of the French people, or to what is being accomplished by them to-day, that we do not wish to enlarge upon the fact. We prefer to look about for a reasonable excuse. In our disappointment at not seeing as many French pictures as we had hoped for, we may possibly have misjudged motives and miscalculated opportunities, and it is well to acknowledge to ourselves that as there cannot possibly have been on the part of the French people any willingness to treat their old friend and ally with disrespect, there must be good reasons for their failure to gratify us by an ampler participation in our Exhibition.

And on thinking it over, there do appear two sufficient reasons for that failure. The first may be dismissed in few words, since it is identical with the reason given in these pages by a correspondent of THE TRIBUNE for the insufficient display made in the Exhibition by Germany. It is that as we Americans did not at first appear to believe in the Exhibition ourselves, we could not expect the people of Europe to believe in it. And in fact, only two foreign nations did believe in the Exhibition from the beginning and proved their faith by their works. These nations were England and Japan. All the other peoples hung fire, though not all with equal persistence or to the same extent. But it is plain that if each of the nations had been willing and able to make as complete an exhibition of its Art as England and Japan have made of theirs, the result would have been such a display, for fullness and for interest, as has not yet been seen anywhere. In the case of France, however, there are serious difficulties in the way of her making such a display of her own art, not only here in Philadelphia, but at home, and it may even be doubted whether she will be able to do so very much better for herself when she comes to make up her collection of French pictures and statues for her own promised Exhibition in 1878.

The difficulty lies not really in any unwillingness to participate in our Exhibition, but in her inability to do more than she has done. As we have said, the French people were slow in making up for our slowness in inviting, and when they did begin to think of coming they were met by two difficulties—the impossibility of persuading private owners to lend pictures, and the fact that French artists, as a rule, had none of their own pictures to lend. In England there are all the time going on (and within 10 years the custom has wonderfully increased) Loan Exhibitions, to which it is coming to be more and more the fashion for everybody, from the Queen down, to contribute whatever he may own of rich or rare that may add to the interest of any particular show. More than this, with the proper key, whether a purely social one, or a sufficient claim as amateur or connoisseur, all doors are opened in England that shut in the treasures of the artistic world, richer there, in quantity and quality, than anywhere else.

But in France such exhibitions have never been common, and are only just now beginning to be held, the fashion having been distinctly borrowed from the English; while it is to-day, as it was always, a most difficult thing to get admittance to the collections of French connoisseurs, or to those of mere wealthy owners. Of course if French owners have to be wrestled with before they can be persuaded to loan their pictures to home exhibitions, what must be expected when they are approached with a request to loan them to an exhibition 3,000 miles away.

We ought not therefore to be surprised at the unsatisfactory character of the French Art-contribution to our Exhibition. Nothing better was reasonably to be expected. And after all, the complaint only holds against defect of quality; no fault is to be found on the score of deficient quantity. And considering how many good French pictures we have here already, it may serve a useful purpose to let us see what the common run of French Art is, lest we should be too much confirmed in thinking that France has no painters but her Meissonniers, her Gérômes, her Bonnats, her Cabanels, and the rest who still survive her illustrious dead.

The names of contributors to the French Department of Fine Arts in the Exhibition take up a little over ten pages in the new Official Catalogue. But the list of articles includes not only pictures and statues, but tapestries, porcelain, water-colors, engravings, and architectural designs. The collection is not distributed with judgment, for the first impression is given of course by the pictures in Memorial Hall, where one naturally expects to find France equally represented with the other great Powers—with England, with Germany, with America, with Austria, and even with Russia and Spain. But, the rooms of these Powers are, at any rate, well filled, whatever may be the quality of the canvases with which their walls are hung, while the impression given by the great French Gallery is one of uncomfortable bareness. Not only is it not sufficiently filled, but, what pictures there are in the gallery are unwisely hung. It seems sometimes as if a Frenchman's business faculties and common sense deserted him when out of sight of Paris. Surely, at home, no such awkwardness, want of proportion, neglect of the main point would have been possible or permitted, as we see here.

The French Gallery (Room "E," Memorial Hall) is a parallelogram, with a door in the middle of each of the long sides, and one in the middle of each end. I believe each of the four great galleries in the Memorial Hall—the English, the American, the French, and the German—is on the same plan, with the exception that the American and German galleries had a door in only one of the

long sides. The English and American made additional room for their pictures by closing up each of the end doors, so that the wall space in the American Gallery was broken by only one doorway, and that in the English by only two. The Germans, having no doorway in one of the long sides of their gallery, secured room by closing one of their end doors, and their wall-space was thus, like that of the English, broken by only two openings. The French had three large canvases to hang in their gallery—Carolus Duran's "Life-size Equestrian Portrait of Mlle. Croizette," A. F. Clément's "Death of Julius Caesar," and Georges Becker's "Rizpah Protecting the Bodies of her Sons from the Birds of Prey." To a practical judgment it would have seemed that, to do these three large pictures any sort of justice, it would be necessary to follow the example of the United States Commission and close all the doorways but one, hanging the "Death of Caesar" on the long wall opposite the doorway leading into the corridor "Z," and putting the remaining two at either end of the gallery, one against the door leading into the Austrian Room, the other against the door leading into the Rotunda. We could then have done full justice to the pictures of Messrs. Duran and Becker, which now cannot be seen at all, and Mr. Clément's picture would have been seen in a good light immediately on entering the room.

By this arrangement too the gallery would have been well balanced and imposing, whereas it is now neither one nor the other. It is not too late to remedy the defect, and we earnestly wish it could be done. If the pictures at present in the gallery were hung as we propose, and the remaining space filled by the pictures that are now in the corridor "Z" and in the room "I" (in the north-east angle of the building), we think the French exhibit would make a more favorable impression than it does at present.

In Art-manufacture the conviction is forced upon us, after looking over the whole field, that the best things the French of to-day are doing are reproductions of their old work. All of these, even, are not equally well done, and bad taste and love of exaggeration and of the startling are as much the foe of the copyist as of the so-called original designer; but still the modern workman, in bronze, in jewelry, in silver, in porcelain, glass, earthenware, lace, stuffs, and furniture is most to be trusted when he is following the old models and working on the old formulas. Invention seems to be at a stand-still with them—a fact which French amateurs of the best rank and station themselves confess and are puzzled to account for.

C. C.

SPANISH ART.

"THE BURIAL OF ST. LAWRENCE"—GERMAN INFLUENCES—ARCHITECTURAL SUBJECTS.

PHILADELPHIA, July 19.—The Spanish Government, like the French, sends a few students to Italy to study art. We believe the French Government has recently modified its regulations so as to permit its pensionaries to choose other places of study, at least during a part of the time. Be this as it may, the Spanish youth have for the last 15 years, and perhaps longer, been seeking opportunities better than those to be found at home in the studios of foreign artists, principally French, as might have been expected, though to judge by many of the larger pictures here, the German studios have found a good deal of favor in the eyes of young Spain. We have ventured to complain that the Spanish Government did not send us better pictures representing its older and its younger Art; if it be replied that we have

in Vera, Gisbert, Mercadé, and others specimens of the younger men, we must demur that we wanted to see the young young men, and not the old young men—the youths with a present, if not a future, of their own. Of young men who are willing to run on in the ruts, and who will diligently hunt up ruts to run in, if none are at hand, there are always plenty: to send such to any one of the civilized countries of to-day is to send coals to Newcastle.

"The Burial of St. Lawrence," by Vera, has a good deal of solemn feeling in the head and figure of the Saint; but, in the living personages that surround his body, there is hardly so much strength as would naturally make itself felt even in the profoundest resignation. The scene is in the Catacombs, the locality being merely indicated, not made out with the archaeological accuracy which is so much the fashion in France to-day. The body of the Saint untouched by the flames, and without the trace of fire on his garments, lies extended on the ground, while his friends stand about it in quiet contemplation. The chance remark of a farmer's wife who looked at it with her circle of calico daughters yesterday was not meant to be profane, but it certainly hit the sense of the picture. "He's dead," she said, "and he looks happy, but seems them others don't take no interest." On the whole, this picture may be judged fairly enough to have come from Overbeck's influence. Its sweetness and its rapidity may alike be fathered on that very milk-and-water German Raphael.

Other German influences are shown in Gisbert's "Landing of the Pilgrims," where Baron Wappers, or Lessing, or some other of the great historic lights that are now happily of the past, has set a Spaniard at work glorifying Protestants. Except a good deal of earnestness in its feeling, there is not much in this big picture that is interesting, but the pupil has learned better than his masters how to respect the unities of his subject. The pastor prays devoutly standing on the shore, and stretching up his arms to heaven, while all the rest of the band kneel in a half circle about him. Every one of these people is devoutly thanking God for deliverance, and where a German of the "historic" school would have taxed his brains to invent a number of "incidents" and "attitudes," and by means of these and of much learning in the way of costumes and archaeology would have scattered the interest all over the canvas, M. Gisbert has steadily eschewed all such distractions, and has for once shown us how earnestness and simplicity may make a "Landing of the Pilgrims" as solemn as a "Death of St. Francis."

The madness of Queen Joana, commonly called "Crazy Joan," because after the death of her husband Philip she refused to allow his body to be buried, seems to us a strange subject for so many artists, clever and half clever, to have wasted their time upon. Gallait of Belgium is, perhaps, the most notable painter who has attempted the theme; his sketch for his life-size picture (and a very repulsive one it was) is in Mr. Belmont's collection. But L. Vallés, in his large picture in the Spanish collection (Memorial Hall), has treated it with dignity, and has given the subject a sincerely pathetic turn. The Queen has been sitting by the bedside on which the body of the King is lying, just seen between the curtains—merely hinted at for the story's sake. Some of the officials of the Court have entered to remonstrate with the lady, and entreat her back to her queenly duties. She looks at them plaintively and puts her finger to her lips as if she feared their talking may awaken him. The courtiers are differently moved by the condition of their Queen. One affectionately entreats her, kneeling

and earnestly pleading. One, an old Polonius, mutters, "She is far gone, far gone!" Another, a younger one, looks at the lady with sorrowful sympathy. There is much to be hoped from an artist who can make a painful subject like this endurable, but we cannot help wishing that he might find a subject where taste and feeling and invention had more legitimate work to do.

Both in the Spanish room in the Memorial Hall and in the same department in the Annex there are a number of pictures by P. Gonzales—all of them architectural subjects, some of them with numerous figures—that merely as faithful architectural portraits are worth looking at carefully. They represent interiors of churches and palaces, streets and courtyards, and while they are interesting to come upon, are interesting rather as pieces of information than as pictures. It is just as important for the success of an architectural study that an artist should have painted it because he was interested in it, as it would be for the success of a portrait, a landscape, or a historical picture. This personality of the artist goes for much more than we are apt to think in giving character and interest to works of art. Only those works of an artist into which his personality strongly enters—which he did because he was moved of himself to do them—can take a strong hold either on his contemporaries or on later comers. We think we see the difference between these rather perfunctory pictures of Signor Gonzales and one in the Spanish room of the Annex, of a church-porch ornamented with plaques and figures of painted and enameled earthenware. This is a very interesting example of a way of ornamenting architecture which we do not remember to have seen depicted before. Those who are pleasing themselves with the study of majolica and its sister manufactures ought to hunt up this picture. We would refer our readers to the catalogue for it, but no one would thank us for that. The only galleries to which the visitor has any reasonable guide are the English, where the subject of every picture, the name of the artist, and the name of the owner, are legibly written upon tablets affixed to the frame, and the Belgian, which has a well printed, well arranged catalogue, containing all needed information. It has the disadvantage, however, of being in French, and is sold at 25 cents, a price out of proportion to the size of the pamphlet.

The Academy of Manila sends some pictures by its pupils which are not without curiosity. One by S. Flores, "An Orchestra of Native Musicians," is painted with much care and precision. The faces of the performers are so well individualized that they look almost like photographs, and there is some appearance of the picture having been made up from artificial helps. There are many pictures sent from Manila, and they are all so many evidences that the artists there are content with their own scenery, people, and native customs, and are, not as yet bitten with the classic madness or with the other madnesses of history, fashion-plate, or bric-à-brac that have seized on their contemporaries elsewhere. We have said that the art of Spain is not to be judged by the specimens of it in the present Exhibition. Were we to do so we should be obliged to give in a verdict of "common-place" and "wanting in vitality," which are really the last terms one would be justified in applying to it. It is in reality of all modern art the most piquant and individual, and the most alive. But, to know this phase of it, we must look elsewhere—in Paris, in the shops of New-York, at Goupil's, at Tolosa's, or in the Loan Exhibition.

C. C.

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